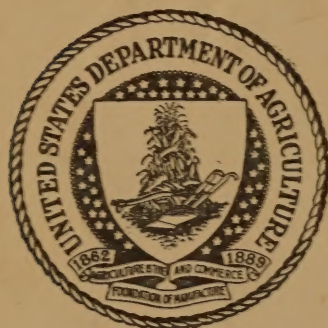


UNITED STATES
DEPARTMENT OF AGRICULTURE
LIBRARY



BOOK NUMBER

55327

411

Sh2

1-2

R 1



VIVARIUM NATURÆ,

SIVE

RERUM NATURALIUM,

VARIÆ ET VIVIDÆ ICONES,

A D

IPSAM NATURAM.

DE P I C T Æ

E T

D E S C R I P T Æ.

THE
NATURALIST'S
MISCELLANY:
OR
COLOURED FIGURES
OF
NATURAL OBJECTS;
DRAWN AND DESCRIBED
IMMEDIATELY
FROM
NATURE.

THE HISTORY OF THE

NATURAL HISTORY

MISCELLANEOUS

OR

COLOURED FIGURES

OF

NATURAL OBJECTS

DRAWN AND DESCRIBED

IMMEDIATELY

FROM

NATURAL HISTORY

55327

AUGUSTISSIMAE CELSISIMAE REGINAE

CAROLINAE

BRITANNIARUM REGINAE

VIRTUTIBUS PRAECELLENTISSIMAE

ARTIUM ELEGANTIARUM

MODELLI PATRICI SUMMAE

HUNC PRIMUM

NATURAE VIVARIUM

FASCICULUM

CONTINENT OMNIA ET OBSERVATIO

A. D. D.

GEORGIUS SHAW

FREDERICUS F. NOBIS

JAN 25 1897

AUGUSTISSIMÆ CELSISSIMÆQUE

C A R O L E T T Æ,

BRITANNIARUM REGINÆ,

VIRTUTIBUS PRÆCELLENTISSIMÆ,

ARTIUM ELEGANTIARUM

JUDICI, FAUTRICI SUMMÆ,

HUNC PRIMUM

NATURÆ VIVARII

FASCICULUM

CULTU OMNI ET OBSEQUIO

D. D. D.

GEORGIUS SHAW,

FREDERICUS P. NODDER.

TO THE
MOST ILLUSTRIOUS PRINCESS,
CHARLOTTE,
QUEEN OF GREAT BRITAIN,
NOT LESS DISTINGUISHED BY
HER VIRTUES
THAN
HER STATION,
THIS FIRST VOLUME
OF THE
NATURALIST'S MISCELLANY

IS
WITH PROFOUND HUMILITY INSCRIBED
BY
HER MAJESTY'S MOST DEVOTED
AND
MOST OBEDIENT SUBJECTS AND SERVANTS,

GEORGE SHAW,
FREDERICK P. NODDER.

PSITTACUS PORPHYROCEPHALUS.



CHARACTER GENERICUS.

Rostrum aduncum : mandibula superiore mobili, cera instructa.

Nares in rostri basi.

Lingua carnosa, obtusa, integra.

Pedes scanforii.

Lin. Syst. Nat. p. 139.

CHARACTER SPECIFICUS.

PSITTACUS submacrourus viridis, vertice subcristato, purpureo-cæruleo, gula rubra.

Inter numerosas hujus generis species vix extat avicula aut forma elegantior, aut coloribus pulchrior. Insulas incolit australes modo exploratas, nuperis navigiis inde ad nos advecta. Interdum fit ut differat paulum colore alia ab alia : ut nempe in nonnullis sint femora viridia, in nonnullis purpurea. Interdum etiam pectus aliquid fusci coloris exhibet. Hæ differentię fortasse vel sexus discrimina indicant, vel a juniore aut proVectiori ætate oriuntur.

T H E
PURPLE-HEADED PARRAKEET.



GENERIC CHARACTER.

Bill hooked. Upper mandible moveable.
Nostrils round, placed in the base of the bill.
Tongue fleshy, broad, blunt at the end.
Legs short. Toes formed for climbing, viz. two backward and two forward.

Linnaeus and Pennant.

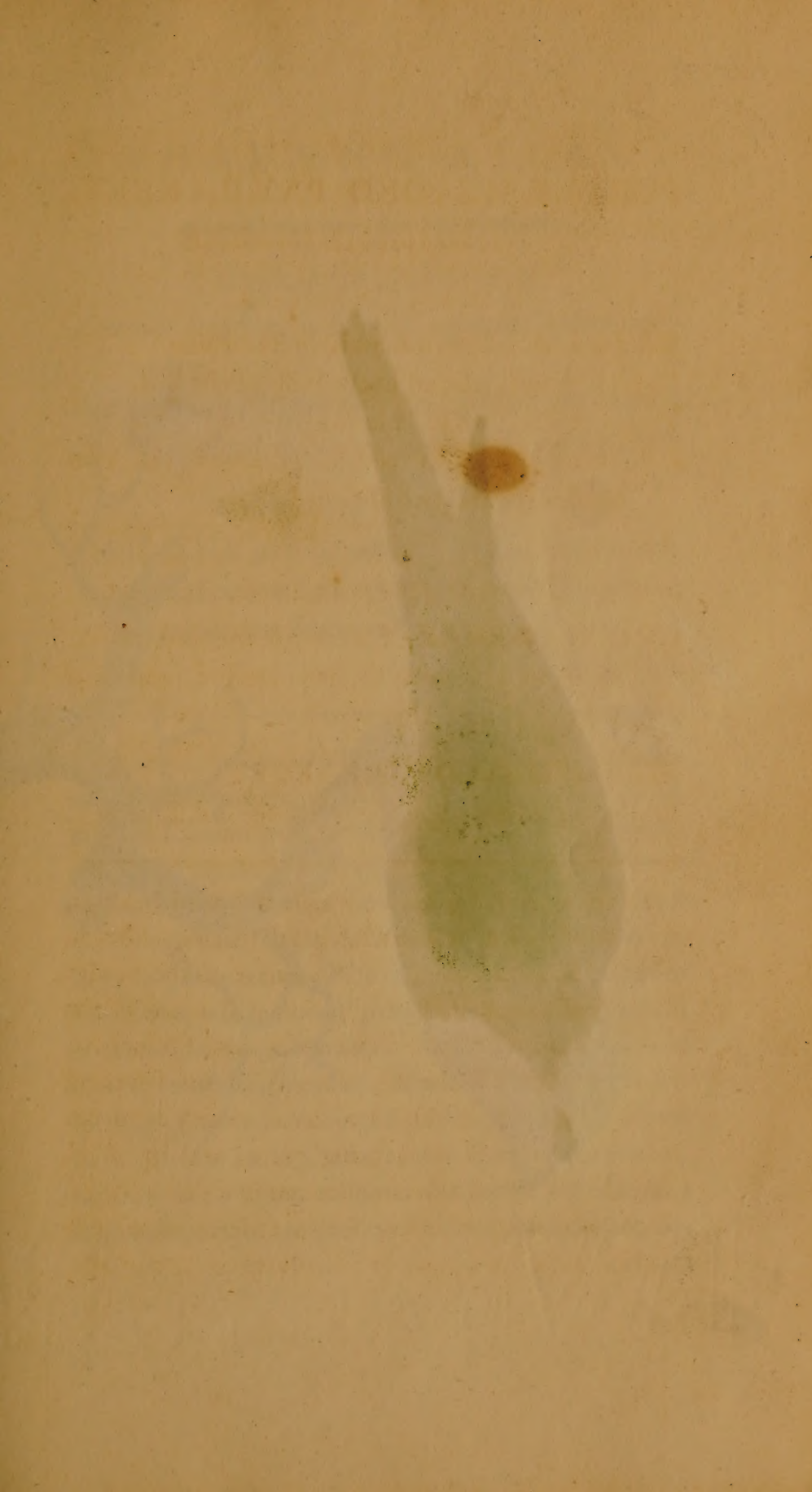
SPECIFIC CHARACTER.

GREEN PARRAKEET, with the tail rather elongated; crown slightly crested, and of a purplish blue; throat red.

BLUE-CRESTED PARRAKEET.

Latham's Synopsis of Birds, vol. I. p. 254.

Of the extensive genus to which this bird belongs, there hardly exists a more beautiful species, either in point of shape or colour. It is a native of the newly-discovered Islands in the South-Sea, and is one of the numerous acquisitions with which Natural History has been enriched by the late Voyages to the Southern Hemisphere. It is subject to some variety as to colour, the thighs in some being green, and in others purple: the breast also is sometimes of a dusky tinge. These are probably either sexual differences, or else may be owing to a more or less advanced state of age.





Red-faced Parrot (Cyanopsitta cyanea)
Illustrated by J. G. Keulemans

PHALÆNA ATLAS.



CHARACTER GENERICUS.

Antennæ fetacæ, a basi ad apicem sensim attenuatæ.

Alæ (sedentis) sæpius deflexæ. (*Volatu* nocturno).

Lin. Syst. Nat. p. 808.

CHARACTER SPECIFICUS.

PHALÆNA pectinicornis elinguis, alis falcatis concoloribus luteo-variis, macula fenestrata: superioribus sesqui-altera.

Lin. Syst. Nat. p. 808.

Phalæna, in hac tabula depicta, est omnium phalænarum hætenus cognitarum maxima: omnium etiam, testante Linnæo ipso, speciosissima. Historia naturalis cultoribus jamdudum est cognita, et a Domina Merian in Historia Insectorum Surinamensium depicta: quæ tamen eximiam ipsius insecti venustatem et varios colores in tabula minus feliciter exprimit. Eruca, notabilis hujus insecti mater, prægrandis est, colore viridi, et tuberculis flavis annulata. Appropinquante ejus in chrysalidem metamorphosi, telam serici subflavi de suo ipsius glutine deducit, in qua cubat, durante chrysalidos statu. Erucae hæ in China, et aliis Orientis regionibus, nec-non in America calidiori frequenter reperiuntur: et quandoquidem ter quolibet in anno producuntur, fericum

ricum illinc ortum commercii non parvi æstimandi fieri possit fundamentum; firmissimum enim hoc sericum simul ac elegantissimum habetur. Opinionem hanc jam olim vulgavit Domina Merian.

Vide Insect. Surin. tab. 52.

Vescitur hæc Eruca præcipue foliis citri.

Phalænæ non mediocrem pulchritudinem afferunt antennæ suæ: singuli enim antennarum articuli radiis quatuor, seu duobus utrinque se diducentibus instructi sunt, ita ut duplices appareant.

THE ATLAS MOTH.



GENERIC CHARACTER.

The *Antennæ* or *Horns* setaceous, decreasing in size from the base to the point.

The *Wings*, when at rest, generally deflected.

Flight, generally nocturnal.

SPECIFIC CHARACTER.

MOTH with sub-falcated wings, varied with different shades of ferruginous and orange; with a large transparent spot on each, and a smaller contiguous spot on the upper wings. Colour of both the surfaces nearly the same.

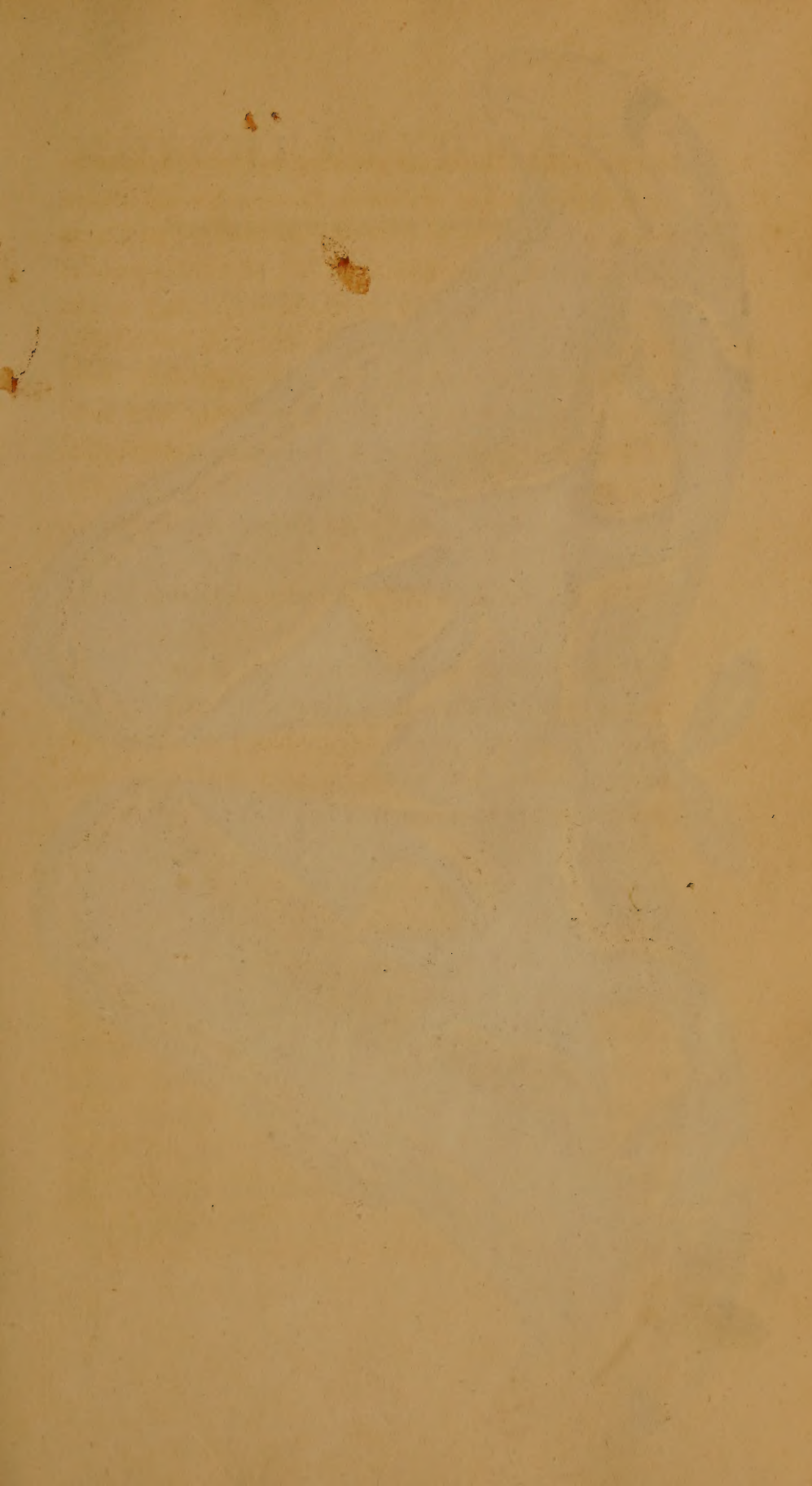
The Moth figured in this plate is the largest species of *Phalæna*, hitherto discovered; it must be unnecessary to add, that it is one of the most beautiful. Linnæus in the *Systema Naturæ* calls it *Speciosissima Phalænarum*. It has been long known to naturalists, and has been figured by Madam Merian amongst the insects of Surinam. The figure, however, which she has given, does not by any means do justice to the uncommon elegance of the insect itself. The Caterpillar from which this remarkable Moth is produced, is very large, of a green colour, and surrounded by rings of yellow

low tubercles. When the period of its change approaches, it spins a web of extremely strong yellowish silk, in which it lies during its state of chrysalis. The Caterpillars are very common in China, and other parts of the East-Indies, as well as in America; and as the Moth breeds thrice a year, it might, in all probability, be made a very profitable article of commerce; since the silk it produces is extremely strong and rich. Madam Merian has observed this in her account of the animal.

See her History of the Surinam Insects, tab. 52.

This Caterpillar feeds principally on Orange leaves.

What adds in a most remarkable manner to the beauty of the Moth, is the curious structure of the Antennæ or Horns; which are pinnated in a quadruple series of fibres, so as to appear as if double, or composed of two pair of Antennæ laid over each other.





MOSCHUS PYGMÆUS.



CHARACTER GENERICUS.

Cornua nulla.

Dentes laniarii superiores solitarii exserti.

Lin. Syst. Nat. p. 91.

CHARACTER SPECIFICUS.

MOSCHUS pedibus humano digito angustioribus.

Lin. Syst. Nat. p. 92.

Quadrupedum ungulatum si non minimum, unum tamen e minimis censetur elegantissimum hoc animal; vix feli minori magnitudine par. Scatent illo Indiæ Orientalis variæ regiones; nec non insula Java. Corpore est agili, et ingenio vivido. Primo intuitu vix ad genus Moschi pertinere videtur: cum tamen a Linnæo et Pennantio ita disponitur, quis inficias ibit? Dentes laniarii superiores in hac specie non exserti, ut in caractere generico, sed brevissimi sunt. Bestiolæ hujus color superiori parte plerumque est subferrugineus, inferiori albidus: sed in hoc ipso specimine (adhuc in Museo Leveriano conservato) collum fasciis albis pulchre notatum est.

THE
PYGMY MUSK.



GENERIC CHARACTER.

No *Horns*.

Two long *Tusks* in the upper jaw.

Eight small cutting *Teeth* in the lower jaw; none
in the upper jaw.

Linnaeus and Pennant.

SPECIFIC CHARACTER.

MUSK with legs of smaller diameter than the
human finger.

GUINEA MUSK.

Pennant. Hist. Quadr. p. 115.

This elegant little creature is one of the smallest of the hoofed quadrupeds, being seldom more than about 9 inches in length; or about the size of a small cat. It abounds in several parts of the East-Indies, and is common in the Island of Java. It is an animal of a very agile and lively disposition. At first view one would not be inclined to rank this creature in the genus *Moschus* or Musk. Yet since both *Linnaeus* and Mr. *Pennant* have agreed in so doing, we shall not object to its being thus placed. The tusks in the upper jaw are however very short, so that it does not shew in a striking manner that particular of its generic character. This little species is generally of a tawny colour above, and white below; but the individual specimen from which this figure was taken, (and which is now in the Leverian Museum) is streaked in a remarkable manner on the neck with white.



TANAGRA TATAO.



CHARACTER GENERICUS.

Rostrum conicum, acuminatum, emarginatum,
basi subtrigonum, apice declive.

Lin. Syst. Nat. p. 313.

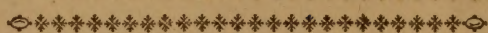
CHARACTER SPECIFICUS.

TANAGRA violacea, dorso nigro, uropygio
fulvo, capite viridi, pectore alisque viola-
ceis.

Lin. Syst. Nat. p. 315.

Nescio an hac plumas habeat aliqua avis splendidi-
ores. Possunt sane Trochili, aliarumque nonnullarum
colores, figillatim inspecti magis nitescere; vix tamen
alii avi obtigit tanta lucidarum plumarum varietas.
Guianam incolit in America Australi pulcherrima hæc
avicula. Fæminæ et pullis pallidior est color; fit etiam
interdum ut avis adulta differat paulum colore alia ab
alia. Cantu plane caret; quod illi cum multis aliis re-
giones calidiores incolentibus commune est: dicamus
igitur cum elegantissimo fabularum scriptore, ‘*Si vocem
haberes nulla prior ales foret.*’

THE
PARADISE TANAGRA.



GENERIC CHARACTER.

Bill conical, acuminate, a little inclining towards the point, upper mandible slightly ridged, and notched near the end.

Linnaeus and *Pennant*.—Cl. *Passeres*.

SPECIFIC CHARACTER.

VIOLEACEOUS TANAGRA, with the back black, the rump orange, head green, breast and wings violet-blue.

Lin. Syst. Nat. p.

Le SEPTICOLOR.

Buff. Ois. Vol. IV. p. 279. pl. 13.

TITMOUSE OF PARADISE.

Edw. pl. 349.

It may be doubted whether in the whole feathered tribe there exists a bird of gayer plumage than this. In the Humming-birds and some others, there are indeed still more vivid hues, if singly considered ; but scarce any bird yet known displays such a combination of lively colours. This splendid little creature is an inhabitant of Guiana in South America. The female is somewhat less brilliant in colour, as is also the case with

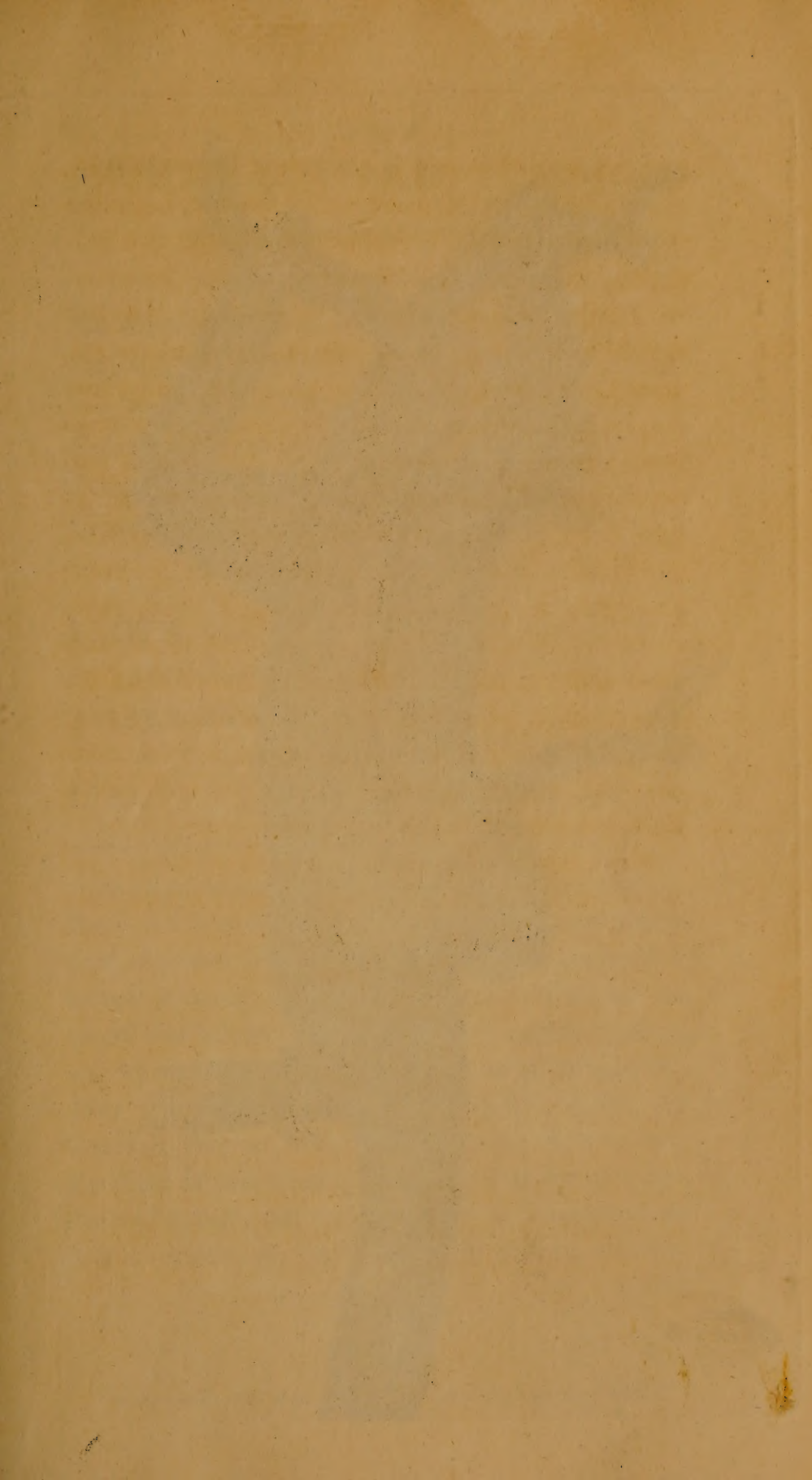


Published Sept. 1799, by T. H. Nodder, & Co. No. 1, Pall Mall Street.

with those which have not yet attained their full age ; it likewise happens that some flight varieties occasionally take place in the colours of the full-grown birds. Like many of the gay birds of the hotter climates, it is destitute of song. In the words of the elegant fabulist, we may apply to it, ‘ *Si vocem haberes, nulla prior ales foret.*’

priis amœnitatibus non minus apte et idonee formari, quam alia animantia, queis melior forma et ingenium vividius obtigerint. Fructibus præcipue vescitur Bradypus; sed et folia ipsa lubenter comedit. Motu incedit languido et tardissimo. Vocem emittere dicitur tam ultra fidem singularem, tam miseranter ejulantem, vultu simul adeo lachrymoso, ut audientium misericordiam et fastidium commoveat. Insolitum hunc clamorem, (a natura, ut credere par est pro defensione datum) simul ac audierint alia animalia, terrore percita in fugam se recipiunt. Nec tamen vox et præterea nihil, quo se defendat data est: adeo enim robore præpollet Bradypus, ut canem, unguibus suis prehensum, vehementer renitentem, et omni vi evadere conantem mordicus retineat, donec ipsa fame consumptum miserit. Tantam enim ipse tolerare potest abstinentiam, ut trunco appensus, sine esca aut potu, per mensem integrum duraverit, vix tandem fame et languore consumptus. Patet hoc a mirando KIRCHERI experimento.

Alia existat Bradypi species; huic valde similis; cui tamen pedes anteriores duobus tantum unguibus muniti sunt.





THE THREE-TOED SLOTH.



GENERIC CHARACTER.

No *Cutting-Teeth* in either jaw.

Canine-Teeth obtuse, single, longer than the grinders, placed opposite.

Grinders five on each side, obtuse.

Fore-Legs much longer than the hind.

Claws very long. [Linnæus and Pennant.

SPECIFIC CHARACTER.

SLOTH with three toes on each foot, and a very short tail; size of a smallish dog.

THREE-TOED SLOTH.

Pennant *Hist. Quadr.* p. 494.

L'AI.

[Buffon. Vol. XIII. p. 34. tab. 5, 6.

So extraordinary is the union of awkwardness and ugliness in this uncommon creature, that it has generally been regarded as one of the most striking examples of animal deformity. The species here exhibited, is a native of South America, where it resides in solitary places, and where its quietude is least liable to be disturbed by Man or other animals. A celebrated Naturalist, the Count de Buffon, will not allow this creature to have any share in contributing to the general beauty in the chain of beings, but regards it as an ill-constructed mass of deformity, created only for misery, which he
thinks

thinks is the less to be wondered at, when perhaps the major part of mankind experience the same fate. With submission, however, to this lively Naturalist, I should not hesitate to believe that the Sloth, notwithstanding this appearance of wretchedness and deformity, is as well fashioned for its proper modes and habits of life, and feels as much happiness in its solitary and obscure retreats, as the rest of the animal world of greater locomotive powers and superior external elegance.

The Sloth feeds chiefly on fruit : it will even feed on the leaves of trees ; and it is of all animals the most languid in its motions. Its voice is said to be so inconceivably singular, and of such a mournful melancholy, attended at the same time with such a misery of aspect, that it excites at once a mixture of pity and disgust ; and that the animal makes use of this natural yell as its best mode of defence ; since other creatures are frightened away by the uncommon sound. This is, however, far from being its only refuge ; for so great is the share of muscular strength which it possesses, that it is capable of seizing a dog with its claws, and holding it, in spite of all its efforts to escape, 'till it perishes with hunger ; for the Sloth itself is so well calculated for supporting abstinence, that the celebrated KIRCHER assures us of its power in this respect having been exemplified by the very singular experiment of suffering one which had fastened itself to a pole, to remain in that situation, without any sustenance, 'till it perished through fatigue and famine, which did not happen 'till more than the space of a whole month.

There is another species of Sloth which has the same general appearance with the species here figured, but is furnished with only two toes to the fore-feet.

ANGUIS SCYTALE.



CHARACTER GENERICUS.

Squamæ abdominales et squamæ subcaudales.

Lin. Syst. Nat. p. 390.

CHARACTER SPECIFICUS.

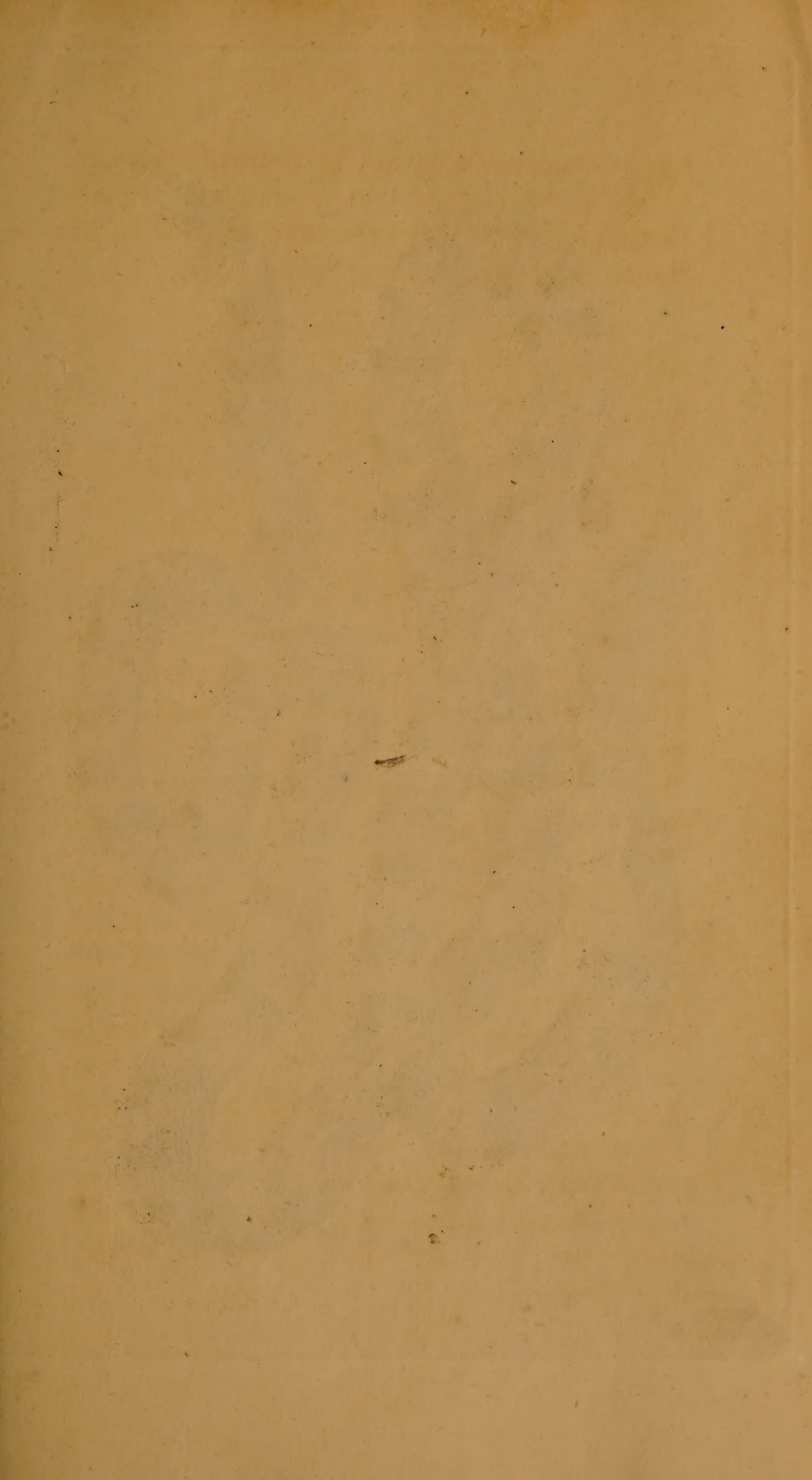
Anguis squamis abdominalibus 240, caudalibus 13.

Lin. Syst. Nat. p. 392.

Non solum pulcherrimis dives coloribus superbit hic serpens, sed et omni noxio prorsus caret. Plurimus est in America Australi, sylvas incolens, variaque insecta devorans, scolopendras præcipue, quibus maxime delectari dicitur, ibi non solum numerosissimis sed et maximis. Colore est interdum albo nigroque, interdum subroseo nigroque: color tamen illi elegantissimus est aurantio-ruber, ventrem flavescent, totum corpus fasciis aterrimis pulcherrime variatus. Mira est illa et peculiaris generi exuvias abjiciendi facultas; hoc peracto novus ingreditur serpens forma læte vivida et coloribus splendidissimis. Hinc tamen fit ut non leviter errent Physici, qui ea de causa species minus accurate distinguere possunt. Notabilis hujus rei causam ita scite exponit celeberrimus LINNÆUS.

‘ Hos nuda in terra rejectos, artuum ministerio ex-
‘ pertes, omnium injuriæ expositos, armavit Natura con-
‘ servatrix suis armis, horrentibus execrabili veneno,
‘ pessimorum pessimo, in diversis diverso. Ne vero hi

- spoliati miserique armis quæ ipsis superessent nimium
- sævirent, decimam quamque tantum speciem armavit
- imperans, sed versipelles eos voluit, ut dubii omnes
- metuerentur ab omnibus.





Published Sept. 1789 by F. P. Nodder & Co. No. 13. Canton Street.

THE PAINTED SNAKE.



GENERIC CHARACTER.

Body covered with uniform scales, or those on the belly and beneath the tail, not differing in shape from the rest.

SPECIFIC CHARACTER.

SNAKE with about 240 scales along the belly, and 13 beneath the tail. General colour black and orange; sometimes black and white, &c.

The Serpent figured on this plate, besides being distinguished by the beauty of its colours, is perfectly harmless. It is common in South America, where it resides in woods, and preys upon various insects, &c. It is said to be particularly fond of Scolopendræ, or centipedes, which in those regions are uncommonly numerous and large. It is sometimes found entirely black and white, and sometimes pale rose-colour and black: but the most elegant state in which it appears is that of a bright orange-red; much paler or yellowish white on the belly, and beautifully fasciated all over with bars of the deepest black. One of the most singular properties
of

of the serpent tribe, is that of casting their skins at certain periods, and appearing in a state of superior beauty in point of colour than before. This is one of the principal causes of that difficulty which obtains amongst Naturalists of determining the species; since one and the same animal may vary extremely in colour at different seasons, and therefore be mistaken for a different species. LINNÆUS gives a very good and probable reason for this, *viz.* 'That since the Author of Nature has armed many of the serpent tribe with a dreadful poison, He has ordained that all should cast their skins, in order to inspire a necessary universal caution and suspicion of the whole tribe.'

PSITTACUS PORPHYRIO.



CHARACTER GENERICUS.

Rostrum aduncum : mandibula superiore mobili,
cera instructa.

Nares in rostri basi.

Lingua carnosæ, obtusa, integra.

Pedes scanforii.

Lin. Syst. Nat.

CHARACTER SPECIFICUS.

PSITTACUS submacrourus, violaceo-cyaneus,
capite subcristato, gula albida.

Perexigua hæc Psittaci species inter elegantissimas
fui generis merito locum obtinet. Color illi est admo-
dum violaceus, gula pectorisque parte superiori excep-
tis, quæ albicant, in quibusdam speciminibus subfusco
obumbrata. Rostrum pedesque rubescunt. Capitis
plumæ fere in cristam sunt productæ, ut in Psittaco
Porphyrocephalo in Numero primo hujus operis ex-
presso. Huic aviculæ singulare quoddam est, (quod
et Lathamium in Synopsi Avium non effugit,) lingua
nempe quæ generi obtusa et brevis est, in hac specie
longa est, et fasciculo, seu penicillo setularum albarum
terminata. Insulam Otaheitee, in Oceano Australi,
incolit hæc species.

T H E
VIOLET-BLUE PARRAKEET.



GENERIC CHARACTER.

Bill hooked. Upper mandible moveable.

Tongue broad, fleshy, and obtuse.

Legs rather short. Toes formed for climbing,
viz. two forward and two backward.

SPECIFIC CHARACTER.

VIOLET-BLUE PARRAKEET, with the tail
somewhat elongated; head rather crested;
throat white. Length about 5 Inches, or
somewhat more.

OTAHEITAN BLUE PARRAKEET.

Latham. Synops. p. 59.

N. B. This bird, and the *Pittacus Porphyrocephalus*, figured in
the first Number of *this* work, are very nearly of the same
size and proportion.

This diminutive species is one of the most elegant
of its tribe. Its colour is a beautiful deep violet, ex-
cept on the throat and upper part of the breast, where
it is white; but in some specimens slightly tinged with
dusky. The bill and legs are reddish, and the feathers
on the head are elongated, so as to form a slight crest,
in



London. Published Oct. 1st 1789 by F. & J. Nodder & C^o. N^o 3. Rotten Row.

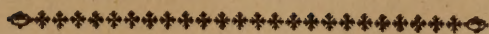
in the same manner as in the *Pfittacus Porphyrocephalus*, described in the First Number of this Work.

A very curious circumstance relative to this little bird, has been observed by Mr. Latham in his Synopsis of birds; *viz.* that the tongue, which in the rest of the genus is blunt and short, is in this species long, and terminated by a sort of pencil of short white bristles.

It is a native of the Island of Otaheitee in the Southern Hemisphere.

to the same region in the Western Hemisphere
has been observed by Mr. J. A. Allen in his
study of birds, and the same species is found in the
region of the same name in the Eastern Hemisphere.
It is a native of the island of Oahu in the
Pacific Ocean.

DRACO VOLANS.



CHARACTER GENERICUS.

Corpus tetrapodum, caudatum, alatum; alis propriis.

Lin. Syst. Nat. p. 358.

CHARACTER SPECIFICUS.

DRACO brachiis ab ala distinctis.

Lin. Syst. Nat. p. 358.

Simile est Lacertis hoc animalculum nisi quod membranam habeat lateralem, radiis quibusdam offeis firmatam, et quam ad arbitrium vel complicare vel explicare potest. Hinc Lacerta volans non inepte nominari posset. Celeberrimus tamen Linnæus, in Systemate Naturæ, genus illi distinctum nomine Draconis dedit.

Africæ indigena est, et ut aliæ minores Lacertæ, inter arbores vagatur, more sciuri volantis, ope membranæ suæ lateralis saliens; an volitans potius dicam? Aliarum Lacertarum more insectis vescitur, quæ (ut verisimile mihi visum est) sacculo quem habet in gula, ingerit, postea pro arbitrio, et per otium comedenda.

Tegitur undique Draco volans squamis parvulis, et plerumque est coloris subcinerei, fusco alboque plus minus vivide dorsum et alas variatus.



THE FLYING DRAGON.



GENERIC CHARACTER.

Body four-footed, tailed, and winged.

SPECIFIC CHARACTER.

DRAGON with the fore-legs unconnected with the wings.

It is merely in being furnished with a lateral expanded membrane, strengthened by a few radii, or bony processes, that this animal differs from the Lizard tribe; so that it might, without impropriety, be named the Flying Lizard. Linnæus however, in his celebrated work, the *Systema Naturæ*, has instituted a distinct genus for it, under the title of *Draco* or Dragon.

This animal is an inhabitant of Africa, and like many other of the smaller Lizards, delights in wandering about trees, and from the peculiar mechanism of its lateral membranes, is enabled to spring from bough to bough, and support itself in air for a moment or two, in the manner of a flying Squirrel. Like other Lizards, it feeds on insects, and it is not improbable that the remarkable gular pouch with which it is furnished, may be a provision of Nature, for retaining for some time, a number of small insects which it may collect, to be afterwards swallowed more at leisure.

This

This animal is covered with very small scales, and is generally of an ash-colour, varied and clouded on the back and wings with brown and whitish; which variations in the different specimens of the animal are more or less deep.

SCOLOPENDRA MORSITANS.



CHARACTER GENERICUS.

Pedes numerosi, totidem utrinque quot corporis
segmenta.

Antennæ setaceæ.

Palpi duo, articulati.

Corpus depressum.

Lin. Syst. Nat. p. 1062.

CHARACTER SPECIFICUS.

SCOLOPENDRA pedibus utrinque 20.

Lin. Syst. Nat. p. 1063.

Huic Insecto, Indiam utramque et Africam incolenti, formidolosus omnino et horridus est aspectus. Non satis manifeste patet (ut mihi visum est) discrimen inter duas species Linnæanas, Giganteam scilicet et Morsitantem. Articulos itidem, seu corporis pedumque segmenta, non semper in eadem specie numero æqualia esse opinatus sum. In specie Europæa, ita se rem habere, probe cognoscitur: larvæ enim, seu juniores, pedibus paucioribus quam seniores sunt instructi. Venero quodam imbuta est species illa jam descripta, quod per forcipem tubulatam, cui apex foratus, morfu in vulnus indit.

Scolopendræ

Scolopendræ hæ ingentes in sylvis plurimæ sunt, variis anguibus cibum præbentes. In domus haud raro irrepunt, Indiam colentibus adeo molestæ, ut lectorum postes in aqua immergere dicantur incolæ, ne noctu incommodi aliquid ab insectis hisce horrendis percipiant.

Veteres qui de Historia Naturali scripserunt, multa et dira perhibent de Scolopendrarum morfu, quorum tamen ita incertum est testimonium, ut facete potius fabulari, quam in veritatis investigatione versari videntur.



THE
GREAT SCOLOPENDRA,
O R
CENTIPEDE.



GENERIC CHARACTER,

Feet numerous. As many on each side as the joints of the body.

Antennæ setaceous and jointed.

Feelers 2, jointed.

Body depressed, or flattened.

Linnæus.

SPECIFIC CHARACTER.

SCOLOPENDRA with about 20 legs on each side.

There is something uncommonly formidable in the appearance of this Insect. It is found both in the East and West Indies, as well as in different parts of Africa. The difference between the two Linnæan species, the Gigantea and Morfitans, does not appear sufficiently clear, and I am inclined to believe that the number of joints, and consequently of legs, is not always the same in different specimens of the same animal; indeed, in the smaller European species this is

E

well

well known to be the case; the larvæ, or those which are young, being furnished with fewer feet than when in a more advanced state of life. The species here described, is of a poisonous nature, and is furnished with a pair of forceps, which being tubular, and with an opening or slit towards the points, are the instruments through which the insect injects its poisonous juice when it bites.

These large Scolopendræ chiefly inhabit the woods, where they are preyed upon by different species of snakes; but, like the European ones, they sometimes are found in houses, and are said to be so common in some particular districts, that the inhabitants are obliged to have the feet of their beds placed in vessels of water, to prevent their being annoyed during the night by these horrible reptiles. The older writers on Natural History are full of the dreadful consequences resulting from the bites of Scolopendræ, but their descriptions are so vague, and their accounts so uncertain, that no great satisfaction can be obtained from reading their Histories.

MOTACILLA SUPERBA.



CHARACTER GENERICUS.

Rostrum subulatum, rectum : mandibulis subæqualibus.

Nares obovatæ.

Lingua lacero-emarginata.

Lin. Syst. Nat. p. 328.

CHARACTER SPECIFICUS.

MOTACILLA nigra, remigibus fuscis, abdomine albo, fronte genisque cæruleis.

Hæc avicula, inter alias sui generis forsan pulcherrima, Novæ Hollandiæ, præcipue Terræ de Van Dieman dictæ incola est; illinc paucis abhinc annis primum in Angliam illata. Colores paulum variat; circa frontem scilicet plus minus est cærulea, ventrem plus minus albida. Caput est aterrimum; quod tegunt plumæ mollissimæ. Totum etiam corpus vestiunt plumæ præter solitum teneræ et elegantes.

Tongue jagged, or lacerated towards the tip.

BLACK WARBLER, with the long feathers of the wings brown; the belly white; the forehead and cheeks blue.

The beautiful species of *Motacilla* here figured, is a native of that part of New Holland called Van Dieman's Land; and is one of the new species of birds, which have been discovered during the voyages to those parts. It varies a little in colour, some specimens having more of the blue on the head than others; the belly also in some specimens is of a more dusky tinge than in others. The head is of the deepest velvet-black, and the feathers on the whole bird have an unusual share of softness and elegance.



SN

London, Published, Nov. 1st 1789 by F. P. Nodder

2nd. V. 23 Pantons Street.

MANIS PENTADACTYLA.



CHARACTER GENERICUS.

Dentes nulli.

Lingua teres, extensilis.

Os angustatum in rostrum.

Corpus squamis tectum.

Lin. Syst. Nat. p. 52.

CHARACTER SPECIFICUS.

MANIS pedibus pentadactylis.

Lin. Syst. Nat. p. 52.

LACERTUS SQUAMOSUS.

Bont. Fav. p. 60.

Externam tantum formam spectanti, videatur hoc animal inter lacertos debere reponi: quibus tamen nulla alia re est affine. Est enim quadrupes revera viviparum, ab aliis quadrupedibus in hoc tantum discrepans, quod squamis validis admodum et magnis, propilis vestitur. Hæ squamæ mire adeo a Natura comparantur ut, appropinquante periculo, contrahere sese possit animal in pilam oblongam, nullis pene dixerim vulneribus obnoxiam; sunt enim squamæ robustæ adeo et acutæ, ut pedes ferarum rapacium, incaute contrectare audentium, severe lancinent. Animal mite est

Manis,

Manis, vesciturque præcipue insectis et vermibus. Inter sylvas et loca palustria vagatur, nullam aliam vocem præter rhonchum quendam peculiarem emittens. In magnam interdum crescit molem, pedes septem vel octo longa. Alia species est hujus generis, in pluribus huic valde similis, cui tamen cauda multo longior, pedesque unguibus quatuor tantum muniti sunt. Species hic depicta in India Orientali habitat, in insula Java quam alibi frequentior. In Africa etiam dicitur inveniri.

THE FIVE-TOED MANIS.



GENERIC CHARACTER.

No *Teeth*.

Tongue cylindric and extenfile.

Mouth narrowed into a snout.

Body covered with scales.

SPECIFIC CHARACTER.

MANIS with pentadactylous (or five-toed) feet.
Lin.

SHORT-TAILED MANIS.

Pennant. Hist. Quadr. p. 505.

If external form alone were regarded in this animal, it might be looked upon as a species of Lizard, so striking is the general resemblance which it bears to that tribe. In reality, however, it has no other affinity with those creatures; it is a genuine viviparous quadruped, and only differs from the generality of other quadrupeds in being covered, not with hairs, but with large and strong scales, which are so admirably contrived by Nature, as to enable it to contract itself on the approach of danger, into an oblong ball, in such
a manner

a manner as to be almost invulnerable; for such is the strength and sharpness of its scales, that they have been known to cut the feet of such beasts of prey as have ventured to attack it in this its defended state. The Manis is an animal of a harmless disposition. It feeds principally on insects, worms, &c. wanders about woody and marshy places, and has no other voice than a sort of snorting. It grows to a very great size, and sometimes measures several feet in length. There is another species of Manis, which has the same general appearance, but which differs in having a much longer tail, and the feet furnished with four claws only, instead of five.

The species here figured, is an East-Indian animal, and seems to be more common in the island of Java, than in other parts. It has also been found in Africa.



S.N.

London, Published Nov: 1st 1789 by F.P. Nodden & Co. N^o 21. Parson Street.

ARANEA AVICULARIA.



CHARACTER GENERICUS.

Pedes octo.

Oculi octo.

Os unguibus, seu retinaculis duobus.

Palpi duo articulati; masculis genitalibus capitati.

Anus papillis textoriis.

Lin. Syst. Nat. p. 1030.

CHARACTER SPECIFICUS.

ARANEA thorace orbiculato convexo; centro transverse excavato.

Lin. Syst. Nat. p. 1034.

Mer. Sur. t. 18.

Fabric. Spec. Inf. p. 545.

Araneam vulgarem et domesticam non possunt non horrescere et averfari incuriosi naturæ observatores. Quam longe tamen distat hæc minuta et imbellis species ab Araneæ Aviculariæ horrenda et ingenti mole! quam non solum alia Insecta sed ipsæ etiam aves reformidant, forcipes habentem unguibus accipitris magnitudine pares, oculosque quibus exsectis et more vitri optici paratis pro microscopio uti possunt Philosophi.

Enormis

Enormis hæc Aranea in variis Americæ regionibus sæpe conspecta, frequentior est in America Meridionali. Inter arbores versatur, aviculis insidians, quas prius forcipibus vulneratas sanguinem exsugendo deinde enecat. Forcipes istæ virus inflant in vulnus, ut et aliis plerisque Araneis commune est. Foramen juxta apices forcipum, per quod exit venenum, et de quo, sitne foramen necne, multum diuque inter physicos dubitatum est, in hac specie ab ipso oculo, sine ope microscopii plane potest percipi.

Mirari sane jure possunt illi, qui in microscopicis investigationibus versantur, illique præcipue qui microscopio Liberkuniano usi sunt, ullum unquam existisse dubium de hoc foramine in Araneorum forcipibus: inesse enim illud Araneæ ipsi vulgari et domesticæ plane demonstrat prima vel secunda lens istius microscopii. Notandum tamen est commune microscopium ad distinctum rei tam minutæ conspectum non satis accommodari. Swammerdamii et Roëselii acumen effugit hoc foramen, et probe notum est Meadum celeberrimum in tractatu suo de venenis Leewenhoekium errasse credere, cum venenum Araneæ per foramen forcipum exprimi asserit: affirmat enim Meadus se variarum specierum forcipes, et speciatim prægrandis hujus speciei sedulo examinasse, nec tamen foramen potuisse detegere. Cum tamen multos post annos rem illi plane ostendit Bakerus, priorem opinionem summo cum candore revocavit vir doctissimus, alteramque substituit; certas tantum species venenosas esse, eas nempe quæ tubulatis forcipibus instructæ sunt; ut in serpentibus evenit; quorum certæ tantum species veneno

veneno imbutæ sunt ; illæ nempe quæ dentes tubulatos gerunt, *e. g.* Crotalus, Vipera, &c.

Ab oculis aliorum Insectorum differunt longe Aranearum oculi, et pro diversitate specierum diversum habent numerum et situm.

Species de qua jam agitur octo habet oculos, in formam pene oblongo-quadratam dispositos. Horum duo intermedii reliquis grandiores sunt, et plane rotundi ; cæteri in formam ovi effinguntur.

THE
BIRD-CATCHING SPIDER.



GENERIC CHARACTER.

Eight *Legs*.

Eight *Eyes*.

Mouth furnished with 2 hooks or holders.

Two jointed *Palpi* or *Feelers*, the tips of which
(in the males) distinguish the sex.

The *Abdomen* terminated by papillæ, or teats,
through which the Insect draws its thread.

SPECIFIC CHARACTER.

SPIDER with orbicular convex thorax with a
transverse central excavation.

Lin. Syst. Nat. p. 1034.

Mer. Surin. tab. 18.

The common Spiders of Europe are frequently beheld with horror and aversion by those who have not accustomed themselves to an attentive survey of the works of nature; but what are these when compared with the terrific magnitude of the gigantic species here exhibited! A species which is formidable not only to other insects, but even to birds themselves; whose fangs are equal in size to the talons of a hawk, and
whose



London, Published, Nov: 1st 1789 by F. & C. Nodder & Co. N. 13. Ranton Street.

whose eyes are capable of being set in the manner of glasses and used as microscopes. This enormous Spider is not uncommon in many parts of America, but it is principally found in South-America. It resides amongst trees, and frequently seizes on small birds, which it destroys by sucking their blood, after having first wounded them by its fangs, which instil a poisonous fluid into the wound, in the manner of other Spiders. The slit or orifice near the tip of the fangs of Spiders, through which the poisonous fluid is evacuated, and the existence of which has afforded so much matter of doubt amongst Naturalists, is in this species so visible that it may be distinctly perceived without a glass.

To those who are accustomed to microscopical investigations, and make use of the advantageous structure of the opake microscope, it may seem surprising that any doubt could ever have been entertained of the existence of this foramen in the fangs of Spiders, since even in the common House-Spider it is perfectly visible by the assistance of the first or second magnifier of Liberkun's microscope; but it should be considered that microscopes of the usual structure are not calculated for shewing to advantage so small an object, and which requires so favourable a light. Even Swammerdam and Roësel could not discover it; and it is notorious that Mead in his Account of Poisons, imagines Leewenhoeck to have been mistaken in supposing that the Spider evacuated its venom through a hole in its fangs; and declares that he himself had examined the fangs of several Spiders, and of this large one in particular,

particular, without having been able to discover the foramen. The late Mr. Baker however, several years after, convinced him of its existence. He then retracted his former sentiment, and with great candour and judgment gave it as his opinion, that, as amongst serpents, only some particular species are poisonous, and have teeth that are perforated for the emission of their poison, viz. the Rattle-Snake, the Viper, and others, so amongst Spiders some kinds only may be poisonous, viz. such as are provided with perforated fangs.

The Eyes of Spiders differ very much from those of most other insects; and are different both in number and disposition in the several species. The present species has eight eyes, which are disposed somewhat in the form of an oblong square. Of these the two middle ones are larger than the rest, and perfectly round; the others are of an oval shape.

reperitur, rupibus aliisque basin securam præbentibus adnatum.

In magnam sæpe crescit molem, duorum scilicet vel trium pedum : frequenter etiam more elegantissimò proliferum conspicitur. Color ejus generalis purpureus est ; interdum flavus ; nec raro utrisque hisce coloribus variatus. Pars ejus vegetabilis est coloris obscure cornei seu fusci ; pars calcaria seu carnea, quam incolunt animalia, est, ut antea dictum, vel flava vel purpurea, et undique tuberculis parvis creberrime obfita, intra quæ, si recens sit Zoophytum, vivunt Hydræ parvulæ.

Fig. 1. Pars ramuli leviter aucti, cum tuberculis, seu Hydrarum cellulis.

Fig. 2. Hydra ipsa, magnitudine aucta.

THE
FAN GORGONIA,
OR
VENUS's FAN.



GENERIC CHARACTER.

The *Flower's* Polypes, dispersed from the lateral branches.

The *Stem* rooted, horny, continued, branchy ; flattened at the base, covered with a bark.

Lin.

SPECIFIC CHARACTER, &c.

RETICULATED GORGONIA, with the ramifications internally compressed, and the bark yellow (or purple).

Lin.

VENUS's FAN.

Ellis's Zoophytes, p. 92.

SEA-FAN.

Ellis's Corallines, p. 60.

The object figured on this plate, and generally known by the name of the Sea-Fan, is one of those numerous productions which are not more remarkable for the singularity of their appearance, than for the different opinions



opinions which have arisen amongst philosophical enquirers, relative to their real nature, and the rank which they should hold in the scale of beings. Many of the species of this class have, by the ancient writers and several of the moderns likewise, been described as vegetables; but from the unwearied attention of some learned naturalists to this subject, it was at length discovered, and seems now pretty generally admitted, that they are in reality of an animal nature, and that the strong resemblance which many of them bear to vegetables, is to be considered as entirely owing to the operation of the animals which formed them.

In a publication of this nature, it will not be expected, that a particular investigation of the arguments on both sides of this curious subject should be introduced: we shall therefore refer such of our readers who may wish for more circumstantial descriptions, to the Philosophical Transactions, the Memoirs of the French Academy; and more particularly to the works of the late Mr. Ellis, where the fullest information may be found.

The whole tribe of the marine substances, known by the general names of Corals and Corallines, (with some animals of a different kind,) are arranged in the Linnæan System under two divisions, *viz.* Lithophyta and Zoophyta. In the latter of these, or Zoophytes, the animal nature predominates more apparently than in the former; and indeed these beings (as the name imports) seem rather to be a composition of animal and vegetable; whereas in the Lithophytes, or other Linnæan division, the stony or calcareous part predominates

nates greatly over the animal one. The Lithophytes are considered as the actual builders of the substance which they appear to inhabit, as in the Madreporæ, and other hard or stony corals; but the Zoophytes are (according to the Linnæan idea) to be considered as a kind of real vegetables, furnished with animated flowers, which, by a peculiar process of nature, display themselves from the ramifications in the form of real animals of the Polype tribe.

Whether this idea be strictly philosophical may well be questioned; and perhaps the opinion of Mr. Ellis, *viz.* that the ramified or supposed vegetable part, is a meer basis or support formed by the animals which inhabit it, is the most probable opinion of the two.

These animals are generally of an appearance more or less resembling the Hydra, or Polype genus. The genus Gorgonia, to which our present subject belongs, is one of the most elegant of the Zoophyte tribe. It contains a great number of species, some of which are nearly of a simple or unbranched structure, while others are very much ramified, and some are also reticulated; it is in this latter division of the genus, that this species is to be arranged.

This beautiful coral is found on the coasts of the Mediterranean, and those of both the Indies; adhering to rocks or other substances, which may afford it a steady basis.

It is frequently of a very large size, *viz.* two or three feet in length; and it is often proliferous in a most elegant manner. Its general colour is a beautiful purple, tinged with yellowish; but in point of colour,

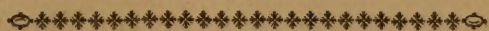
lour, it varies extremely ; some specimens being seen almost all purple, others all yellow, or variegated with purple branches and veins.

The vegetable part or stem is of a very dark horn-colour, or brown ; the animal part consists of the calcareous yellow or purple incrustation ; thickly beset with small protuberances, in each of which is a cavity, which, (in the recent coral) is the habitation of a small Polype.

Fig. 1. A small detached part, slightly magnified, shewing the cells in which the Polypes reside.

Fig. 2. The Polype itself slightly magnified.

PAPILIO PRIAMUS.



CHARACTER GENERICUS.

Antennæ apicem versus crassiores, sæpius clavato-capitatae.

Alæ (sedentis) erectæ sursumque conniventes,
(*Volatu* diurno.)

Lin. Syst. Nat. p. 744.

CHARACTER SPECIFICUS, &c.

PAPILIO alis denticulatis tomentosis supra viridibus; institis atris; posticis maculis sex nigris.

Lin. Syst. Nat. p. 744.

PAPILIO AMBOINENSIS viridi et nigro-holofericus insignis.

Vincent. Mus. 10.

PAPILIO PRIAMUS.

Clerk. Icon. Inf. rar. t. 17.

N. B. *Antennæ* in hac specie non clavato-capitatae, sed filiformes, et acuminatae.

Si illustrissimo Linnæo assentimur, hæc Papilionis species omnium pulcherrima reputanda est. "Papilionum omnium (inquit Linnæus) princeps longe augustissimus"

“gustissimus, totus holosericus, ut dubitem pulchrius
“quidquam a natura in insectis productum”. In in-
sula Amboyna habitat, et inter lautissimas simul ac
pretiosissimas species censetur. Color ejus viridis ita
est formosus, ut omnem alium virorem superet, et fe-
ricum mollissimum et nitidissimum longe antecellat :
notandum etiam est quod aureus quidam fulgor cum
virore commistus, illi alarum parti quæ aterrimi est
coloris, pulcherrime opponitur.

Papilio Priamus primum locum obtinet inter duas
Linnæanas divisiones Papilionum majorum in Equites
Trojanos et Achivos. Hæ duæ sectiones Papilionum
ab omnibus aliis hujus generis insectis distinguuntur
forma peculiari alarum superiorum, quæ ab angulo
postico ad apicem longiores sunt quam ad basin.

Equites Troës plerumque maculis ex utraque parte
thoracis sanguineis notati sunt. Plerumque etiam co-
lores hujus divisiones in nigrum potissimum vergunt.

ALCEDO CRISTATA.



CHARACTER GENERICUS.

Rostrum trigonum, crassum, rectum, longum.

Lingua carnosa, brevissima, plana, acuta.

Pedes gressorii, plerisque.

Lin. Syst. Nat. p. 178.

Class: *Picæ.*

CHARACTER SPECIFICUS, &c.

ALCEDO brachyura subcristata cærulea, subtus
rufa, crista nigro-undulata.

Lin. Syst. Nat. p. 178.

Edwards. t. 336?

Le VINTSI.

Buffon. Ois. vol. VII. p. 205.

In genere Alcedinis exempla sunt coloris varii et splendidissimi: inter omnes autem Alcedines eminet pulcherrima species in tabula depicta. Inter minores est sui generis. Cristam in vertice formosam gerit hæc avicula quæ illi non parvo est ornamento. In insula Amboyna apud Indos præcipue invenitur.

THE
CRESTED KINGFISHER.



GENERIC CHARACTER,

Bill trigonal, thick, strait, long, sharp-pointed.

Tongue fleshy, very short, flat, sharp-pointed.

Feet (in most of the species) gressorial, *i. e.* three toes forward, and one backward; and the three lower joints of the middle toe closely joined to those of the outmost.

Linnæus and Pennant.

Class, *Picæ.*

SPECIFIC CHARACTER. ♂c.

SHORT-TAILED BLUE-CRESTED KING-
FISHER, rufous beneath, the crest undula-
lated with black. *Lin.*

Edwards, pl. 336?

Le VINTSI.

Buff. Hist. Ois. vol. VII. p. 205.

In the Kingfisher genus, we have examples of the most striking variety and brilliancy of colour, and perhaps, in this respect, no species can be found that exceeds the bird here represented. It is one of the smaller birds of its genus. Its beauty is singularly heightened by the elegant crest with which the head is ornamented. It is a native of the island of Amboyna in the East-Indies.



London, Published Dec. 1st 1789 by F. & C. Nodder & Co.

N. B. Ranton Street.

GORGONIA FLABELLUM?



CHARACTER GENERICUS.

Flores Hydræ, sparsi e poris lateralibus.

Stirps radicata, cornea, continuata, ramosa; basi explanata, cortice obducta.

Lin. Syst. Nat. p. 1289.

Class: *Vermes*.

CHARACTER SPECIFICUS, &c.

GORGONIA reticulata ramis interne compressis, cortice flavo?

Lin. Syst. Nat. p. 1293.

FRUTEX MARINUS ELEGANTISSIMUS?

Gluf. exot. 120.

FLABELLUM VENERIS.

Ellis. corall. p. 61. t. 26.

De corallii in hac tabula depicti natura et ortu, nomine Flabelli marini cogniti, plurimum disceptavere Philosophi; incerti quo in ordine entium debeat reponi. Multas hujus classis species scriptores antiqui et recentiores ut vegetabilia descripserunt; at a feriis et sedulis investigationibus doctorum hominum tandem compertum est vera esse animalia, vegetabilia tantum structura

structura sua referentia, ab animalium incolentium labore ita efficta. Vetat instituti mei brevitats varia in hanc quæstionem Physicorum argumenta proferre. Qui plura desiderat Acta Philosophica Anglica et Gallica, præcipue vero scripta Ellisii consulat. Substantias omnes marinas, communiter nomine Coralliorum et Corallinarum distinctas, cum paucis aliis diversæ indolis animalibus, digerit Linnæus in duas divisiones, Lithophyta scilicet et Zoophyta. In Zoophytis animalis natura multo magis præpollet : nam hæ substantiæ (ut et nomen vult) ex animalibus et vegetabilibus compositæ sunt : in Lithophytis materia calcaria et lapidea magis dominatur. Lithophyta corallium quod incolunt revera ædificasse creduntur, ut patet in madreporis et in aliis coralliis lapidosis. Zoophyta autem ut putat Linnæus, sunt veræ plantæ, floribus animatis præditæ, peculiari Naturæ consilio a ramusculis in formam polyporum se pendentibus. Dubitari merito potest sitne hæc Linnæi idea vere Philosophica. Verisimilior fortasse Ellisii opinio, qui vult partem vulgo vegetabilem reputatam, esse meram basin, ab animalibus incolentibus effictam.

Hæc animalia forma sua ad genus Hydræ, seu Polypi accedunt. Genus Gorgonia, ad quod præsens species pertinet, est forte omnium Zoophytorum elegantissimum. Plurimas continet species, inter quas aliæ sunt simplices, seu vix ramosæ ; aliæ valde ramosæ, et aliæ etiam reticulatæ ; sub quibus hæc ipsa species militat.

Formosum hoc corallium, in littoribus maris Mediterranei, in littoribus etiam Indicis et Americanis reperitur,



London Published Dec: 1. 1799 by F. & J. Nodder & Co. N. 13. Parson Street

P R I A M U S,
O R T H E
I M P E R I A L T R O J A N.



GENERIC CHARACTER.

The *Antennæ* or *Horns* thickening towards the upper part, and generally terminating in a knob, or club-shaped tip.

The *Wings* (when sitting) erect, and meeting upwards (*Flight* diurnal.)

Lin. Syst. Nat. p. 744.

SPECIFIC CHARACTER.

BUTTERFLY with black-and-green wings, with six (or four) black spots on the lower wings.

N. B. The *Antennæ* in this species are not thick at their extremities, but filiform and sharpened.

If we allow the opinion of Linnæus to be decisive, this is, of all the Papilionaceous tribe, the most beautiful insect. “It is (says Linnæus) by far the most august of all the Papilios; being all over of a silky appearance, and it may be doubted whether nature has produced any object more beautiful amongst insects”.

It

It is a native of the island of Amboyna, and it is regarded as one of the most curious and valuable species yet known. Nothing can exceed the richness of the green colour, which in particular lights, is not only of an appearance far superior to the finest satten, but has also a golden tinge diffused through it, which forms the most beautiful contrast with the deep black of the rest of the wings.

The *Papilio Priamus* stands foremost amongst the Linnæan division of the larger butterflies into the two sections of Trojan and Grecian Warriors or Equites. These two sections of butterflies are distinguished from all others by the remarkable shape or outline of their upper wings, which are longer if measured from the hinder corner to their anterior extremity, than from the same point to their base. The Trojan Equites are generally distinguished by red or blood-coloured spots on each side their breasts: the prevailing colour also of this division is generally black.

PSITTACUS PORPHYRURUS.



CHARACTER GENERICUS.

Rostrum aduncum : mandibula superiore mobili,
cera instructa.

Nares in rostri basi.

Lingua carnosæ, obtusa, integra.

Pedes scanforii.

Lin. Syst. Nat. p. 139.

CHARACTER SPECIFICUS.

PSITTACUS brachyurus viridis, uropygio cy-
aneo, rectricibus (exceptis intermediis dua-
bus) purpureis.

Olf. Caudæ tectrices valde productæ; rectrices apice subquadratæ,
nigro fimbriatæ.

Latbam. vol. 1. p. 315.

Formosam hanc aviculam, Cayanam in America
Australi incolentem, colores decorant præter solitum
vividi et splendentes. Præcipue distinguitur hæc spe-
cies rectricibus, seu caudæ pennis purpureis; exceptis
intermediis, quæ virent. Species sui generis fere ra-
rissima est, et (ut puto) nunc primum pictura in pub-
licum evulgata.

T H E
PURPLE-TAILED PARRAKEET.



GENERIC CHARACTER.

Bill hooked. Upper mandible moveable.
Nostrils round, placed in the base of the bill.
Tongue fleshy, broad, blunt at the end.
Legs short. Toes formed for climbing, viz.
two backward and two forward.

Linnæus and Pennant.

SPECIFIC CHARACTER, &c.

SHORT-TAILED GREEN PARRAKEET,
with the rump blue, and the tail (except
the two middle feathers) purple.

Obs. The coverts of the tail are very long, and the tail-feathers are
spearish at the tips, and fringed with black.

PURPLE-TAILED PARRAKEET.

Latham. vol. 1. p. 315.

The colours of this most beautiful species, which is a native of Cayenne in South America, are of uncommon brilliancy. It is principally distinguished by the purple rectrices, or tail-feathers; except the two middle ones, which are green. It is one of the rarest birds of its genus, and we believe this to be the first figure of it yet published.



London, Published Jan. 7th 1790 by F. & J. Nodder & Co.

N^o 1. Bon. in. Street.

R A N A P I P A.



CHARACTER GENERICUS.

Corpus tetrapodum, nudum, ecaudatum.

Lin. Syst. Nat. p. 354.

CHARACTER SPECIFICUS, &c.

RANA digitis anticis muticis quadridentatis, posticis unguiculatis.

Lin. Syst. Nat. p. 354.

Seb. Mus. 1. t. 77.

Mer. Sur. t. 59.

Vallisn. Nat. 1. t. 41. f. 6.

Solent communes ranæ fœminæ ova sua in fossis et aquis stagnantibus, punctis mille nigris familia, glutine copioso contenta, primo vere deponere. Puncta hæc, ranarum futurarum veri embryones, elapsis paucis diebus, mole augentur, colore sunt minus fusco, e glutine circumfuso emergunt, et in aquis libere natant. Gyrinorum nomine nunc probe cognoscuntur, et corpore sunt prægrandi, sine ullis pedum vestigiis, cauda autem maxima pinniformi: ex utraque etiam parte thoracis apparent branchiæ ramosæ, seu organa respirationis. Elapso longo tempore, illisque nihil nisi magnitudine mutatis, branchiæ ramosæ decidunt, pedes anteriores e cute emergunt, et paulo post pedes

posteriores. Vivit adhuc animal in aqua in qua primum nascebatur, cauda etiam remanente. Post aliquot tamen septimanas hæc quoque sensim decrescens, tandem evanescit : jamque rana perfecta in terram progreditur, abhinc pro arbitrio vel in humo vel in aquis degens.

Talis est ranarum omnium Europæarum transformationis series (exceptis aliquot differentiis in figura et dispositione ovorum in variis speciebus). At vero in America Australi hujus generis est species, quæ inter omnia ludentis Naturæ miracula primum sibi locum videtur vindicare. Pullos enim more prorsus insolito e cellulis, seu concavis tuberculis in dorso sitis excludit. Differt igitur hæc ranæ species, utpote vivipara, ab omnibus sui generis, nec non ab aliis animalibus, insolito gestandi et parturiendi modo.

Surinamiam incolit rana hæc monstrosa. Color illi (saltem in speciminibus quæ ad nos pervenerunt) est plerumque plus minus fuscus, et interdum pene nigricans ; interdum multo pallidior. Animal est immodice deforme ; caput antica parte acuminatum gerens, rostro velut fuillo. Pedum anticorum digiti extremitates habent quadrifidas.

Affirmat CAMPER, vir anatomes peritissimus, Pipam uterum, seu ovarium internum habere, ovaque sua, eodem modo quo et alia hujus generis animalia, excludere ; et, si qua fides FERMINO, (qui se testem oculatum tam miræ rei fuisse asserit,) mas ova a foemina deposita pedibus congregat, dorsoque foeminæ imponit, quæ fecundata, intra cellulas dorsuales illa recipit, et occludit, donec paulatim perfectam ranæ formam adeptæ, iterum excludantur.

Animal

Animal hoc tam fingulare unicum tantum partum
edere voluit Natura, nec cum aliis fui generis specie-
bus collatum, fœcundum haberi potest; Pipa enim
quam observavit FERMINUS, quinque diebus septua-
ginta quinque pullos produxit.

THE
P I P A,
O R
T O A D O F S U R I N A M,



GENERIC CHARACTER.

Body four-footed, naked, without tail.

Lin. Syst. Nat.

SPECIFIC CHARACTER, &c.

FROG with the toes of the fore-feet quadrifid at their extremities; the hind-feet webbed and clawed.

Seba. vol. 1. t. 77.

Mer. Sur. t. 59.

The spawn of the common frog is deposited in large heaps or clusters by the females in stagnant shallow waters and ditches in the early part of the spring; it consists of a congeries of black globular points, surrounded with a considerable depth of gelatinous substance. The black points are no other than the real embryos of the future frogs; in a few days they enlarge, change to a somewhat lighter colour, and break through the surrounding gluten, and swim in the water.



London, Published Jan. 1799 by T. P. Neale & Co. No. 13. Cannon Street.

ter. In this state they are well known by the name of tadpoles, and consist of a very large body, with no appearance of legs, but furnished with a very remarkable fin-shaped tail, and on each side the breast is a set of ramified branchiæ, or respiratory organs. After having lived for a considerable space in this state, with little other change of appearance than an increase of size, the ramified parts drop away, and the fore-legs appear; these are soon succeeded by the hinder ones, and the animal still continues to inhabit the water in which it was hatched; it is still furnished with the tail, which at this period of its growth makes a conspicuous appearance; but, after some weeks this also shortens by degrees, and the animal, having attained its perfect figure, ventures upon land, and from that time is at pleasure an inhabitant of either element.

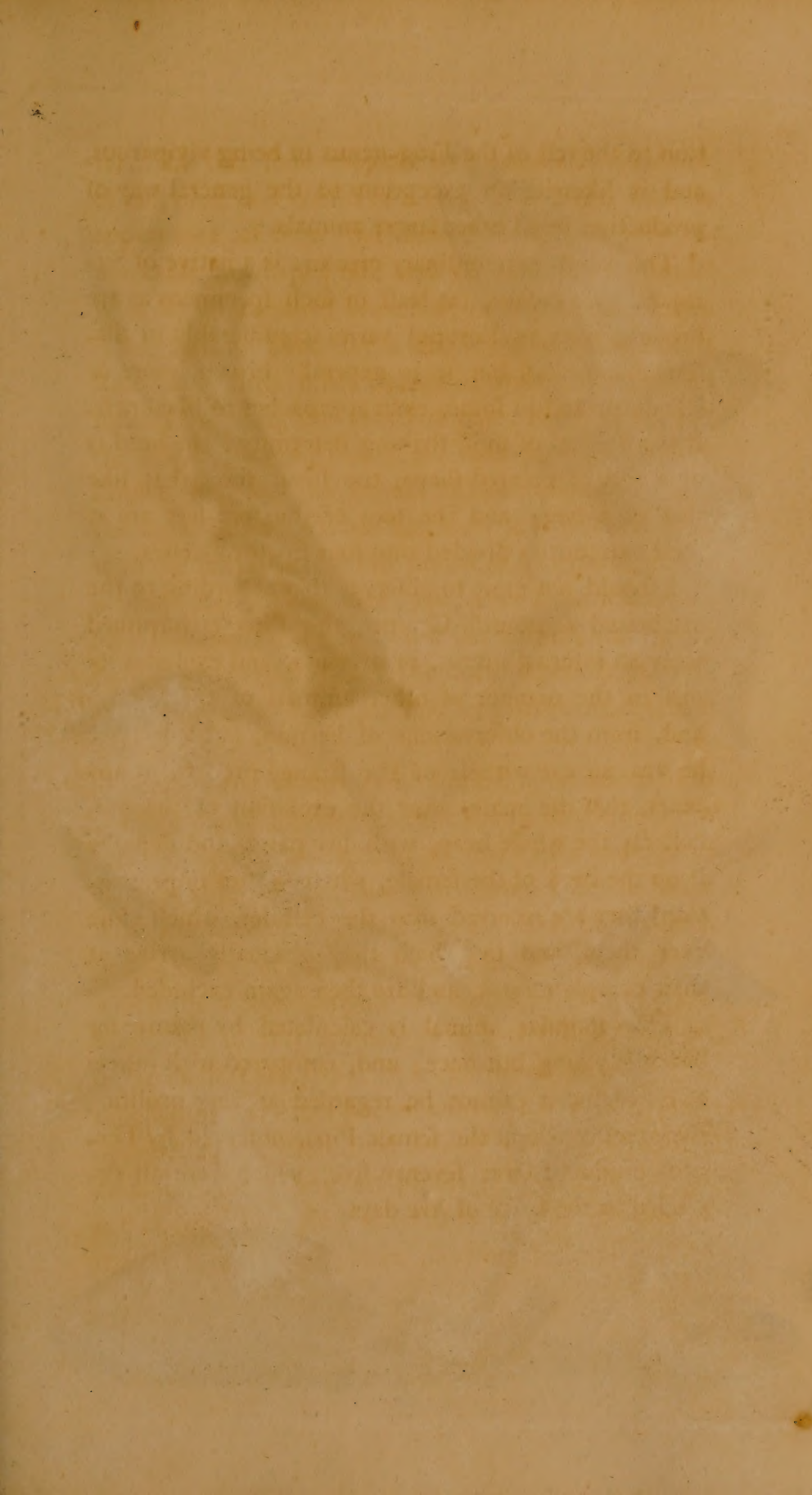
Such is the change (with some few variations as to the figure and disposition of the spawn in the different species) which the animals of this genus undergo in all the kinds which belong to Europe; but in South America we have an instance in a species of this same genus, of one of the most extraordinary particularities which the whole compass of Natural History can exhibit: for in this animal, (which is called the Pipa, or Surinam Toad,) as if by a caprice of nature, unparalleled by any other known animal, and diametrically opposite to the established laws of production in other creatures, the young are produced, perfectly formed, out of cells, or hollow tubercles placed on the back of the female. This species therefore forms an exception

tion to the rest of the Frog-genus in being viviparous, and is likewise an exception to the general way of production in all other larger animals.

This most extraordinary creature is a native of Surinam. Its colour, (at least in such specimens as are brought over to Europe) varies considerably in different subjects; but it is generally brown, more or less deep, and in some, even approaches to blackness. It is a species of most striking deformity; the head is of a sort of pointed shape, the snout somewhat like that of a hog; and the toes of the fore-feet are at their extremities divided into four small processes.

I should not omit to observe, that according to the celebrated anatomist Camper, the Pipa is furnished with an internal uterus, or ovarium, and excludes its ova in the manner of other animals of this genus; and, from the observations of Fermin, (who declares he was an eye witness of the strange process,) it appears, that the male, after the exclusion of the ova, collects the whole heap, with his paws, and deposits it on the back of the female, where, (after impregnation) they are received into the cellules, which close over them, and in which they gradually arrive at their complete form, and are then again excluded.

This singular animal is calculated by nature for bearing young but once; and, compared with others of its genus, it cannot be regarded as very prolific; the number which the female Pipa, observed by Fermin produced, was seventy-five, which were all excluded in the space of five days.





London, Published Jan. 7th 1790 by F. & R. Nodden & R. A. S. Norton Street.

SPHINX OCELLATA.



CHARACTER GENERICUS.

Antennæ medio crassiores, seu utraque extremitate attenuatæ, subprismaticæ.

Alæ deflexæ (*Volatu* graviore vespertino seu matutino.)

Lin. Syst. Nat. p. 796.

CHARACTER SPECIFICUS, &c.

SPHINX alis repandis : posticis ocellatis.

Lin. Syst. Nat. p. 796.

SPHINX alis angulatis : posticis rufis, ocello cœruleo.

Fabr. Syst. Ent. p. 536.

Scopoli. Entomol. Carniol. p. 182.

Plurimas quæ insectis hujus classis accidunt, mutationes peculiari quadam lætitia solemus contemplari phyci. Quamvis enim philosopho rem penitus in-tuenti fatis constet animal idem esse, nec adeo immu-tari ut fiat alterum; sed partes tantum gradatim ex-plicari quæ sub forma insecti longe aliter apparentis latuerunt; non possumus tamen non admirari, nos-tramque e mortuis resuscitationem Papilionis meta-morphosi plane obumbratam agnoscere.

Antiqui

Antiqui sane varias Papilionum vices, illosque a morte temporaria redivivos intuentes, (ut verisimile est) quasi animæ symbolum habuerunt. Vox enim ψυχή et pro anima et papilione usurpatur. Recentiores Physici historiam naturalem ad religionis usum recte convertentes, ab hisce insectis mire adeo permutatatis humani corporis resurrectionem elucidare conantur. Exemplum tamen minus aptum feligunt, nempe Phalænam Mori, five Sericam; utpote quæ nec sub terra immutatur, nec a morte accita, notabili est pulchritudine. At vero, inter omnia Naturæ phænomena, Sphinx, de qua jam agitur grandis et ultimæ humani corporis transformationis exemplum jure habetur vividissimum. Eruca enim Sphingis, pabulo suo satiata, sub terra alte se occulit, ibi exuvias ponit, et veluti mortua menses multos jacet: his exactis, iterum ab humo attollitur: tumuli claustra deserit, et inter animalia unum e formosissimis erumpit. Ipsius certe Apostoli idea, merito ab omnibus laudata, quaque ad popularem captum nulla potest esse accommodatio, philosopho minus apta et vivida videtur, quam ejusdem mysterii elucidatio, de variis hujus insecti vicibus desumpta. Nec sane in omnibus suis operibus aliud clarius exemplum profert Natura.

De hac metamorphosi ita cecinit poeta anonymus.

Segnis et informis serpens eruca per herbas

Innocue viridi sustinet ora cibo.

Jam conviva satur, pertæsa et lumina vitæ

Quærit in effossa ponere corpus humo.

Exuit et vestem, ac cæcis commissa latebris

Dormit, et in placida morte quieta manet.

Hyberni

Hyberni frustra fugiunt per pascua venti,
Altaque nix rigido jam tenet arva gelu.
Illa nihil sentit, tumuloque occlusa profundo
Dormit, et a vento tuta, et ab hoste jacet.
At simul auratis aperit cum cornibus annum
Taurus, et a zephyris terra soluta viret,
Cum frondent sylvæ, cum formosissimus annus,
En! tumulo surgit pulchra phalæna suo!
Surgit, et ut veteris rumpit jam claustra sepulchri
Miratur speciem corporis ipsa sui.
Quam formosa vigens! O quantum distat ab illa
Viderat errantem quam prior annus humi!
Alarum ornatum, gemmantes aspice ocellos!
Jam pluma in molli corpore multa nitet:
Mille trahens varios adverfo sole colores
Evolat, et cæcos despicit inde rogos.
Blandaque purpureis subvecta per aëra pennis
Per nemora et varios expatiatur agros.
Inque vices lectisque rosis violisque superbe
Incubat, et forma vincit utrasque sua.
Scilicet et nostri reputentur vana sepulchri
Præmia, cum tali teste probata manent?

Sphinx Ocellata, quam in adjuncta tabula pro exemplo generis depingi curavimus, insectorum quæ in Britannia nascuntur, species est formosissima. Larva ejus super falices plerumque visa, sub initio mensis Augusti magnitudinem plenam adepta, sub terra sese sepelivit, et in chrysalidem mutatur, e qua, ineunte sequente Junio, phalæna ipsa erumpit.

THE
OCELLATED SPHINX,
OR
EYED HAWK-MOTH.



GENERIC CHARACTER,

Antennæ thickest towards the middle, or attenuated at each extremity.

Wings deflected, *i. e.* sloping downwards on each side, when closed. (*Flight* generally in the morning and evening.)

SPECIFIC CHARACTER.

SPHINX with repandous wings: the lower ones ocellated.

Lin. Syst. Nat.

The EYED HAWK-MOTH.

Albin. Inf. p. 8. f. 2.

The alteration of form during the different periods of life, which the insects of the Papilionaceous tribe undergo, affords a subject of the most pleasing contemplation to the mind of the Naturalist; and though a deeply philosophical survey demonstrates that there

is no real or absolute change produced in the identity of the creature itself, or that it is in reality only the gradual and progressive evolution of parts before concealed, and which lay masqued under the form of an insect of a widely different appearance, yet it is justly viewed with the highest admiration, and even generally acknowledged as in the most lively manner typical of the last eventful change.

If any regard is to be paid to a similarity of names, it should seem that the ancients were sufficiently struck with the transformations of the butterfly, and its revival from a seeming temporary death, as to have considered it as an emblem of the soul, the Greek word $\psiυχη$ signifying both the soul and a butterfly.

Modern Natural Historians, impressed with the same idea, and laudably solicitous to apply it as an illustration of the awful mystery revealed in the sacred writings, have drawn their allusions to it from the dormant condition of the papilionaceous insects during their state of chrysalis, and their resuscitation from it: but they have unfortunately chosen a species the least proper for the purpose, *viz.* the Silkworm; a species which neither undergoes its change under the surface of the earth, nor, when emerged from its tomb, is it an insect of any remarkable beauty; but the larva, or caterpillar of the Sphinx, when satiate of the food allotted to it during that state, retires to a very considerable depth beneath the surface of the ground, where it divests itself of all appearance of its former state, and continues buried for several months, then rises to the surface, and bursts from the confinement of its tomb,
and

and commences a being of powers so comparatively exalted, and of beauty so superior, as to be one of the most elegant of the whole insect tribe.

Even the animated illustration taken from the vegetable world, so justly admired, as best calculated for general apprehension, must yield in the force of its similitude to that drawn from the insect's life, since Nature exhibits few phænomena that can equal so wonderful a transformation.

This metamorphosis is thus described by an anonymous poet.

The helpless crawling caterpillar trace,
From the first period of his reptile race.
Cloth'd in dishonour, on the leafy spray
Unseen he wears his silent hours away.
'Till satiate grown of all that life supplies,
Self-taught, the voluntary martyr dies.
Deep under earth his darkling course he bends,
And to the tomb, a willing guest, descends,
There long secluded in his lonely cell,
Forgets the sun, and bids the world farewell.
O'er the wide waste the wintry tempests reign,
And driving snows usurp the frozen plain :
In vain the tempest beats, the whirlwind blows ;
No storms can violate his grave's repose.
But when revolving months have won their way,
When smile the woods, and when the zephyrs
 play,
When laughs the vivid world in summer's bloom,
He bursts, and flies triumphant from the tomb.

And

And while his new-born beauties he displays,
With conscious joy his alter'd form surveys.
Mark, while he moves amid the sunny beam,
O'er his soft wings the varying lustre gleam.
Launch'd into air, on purple plumes he soars,
Gay Nature's face with wanton glance explores;
Proud of his various beauties wings his way,
And spoils the fairest flow'rs, himself more fair
than they.

And deems weak Man the future promise vain,
When Worms can die, and glorious rise again?

The Sphinx Ocellata, figured on the annexed plate, as an example of the genus, is perhaps the most beautiful insect which this country produces. The caterpillar is generally found on willows. It arrives at its full size towards the beginning of August, when it buries itself, and changes to a chrysalis, from which, about the first week in the following June, proceeds the moth.

CERTHIA FAMOSA.



CHARACTER GENERICUS.

Rostrum arcuatum, tenue, subtrigonum, acutum.

Lingua acuta.

Pedes ambulatorii.

Lin. Syst. Nat. p. 184.

Picæ.

CHARACTER SPECIFICUS.

CERTHIA rectricibus intermediis duabus longissimis, corpore viridi nitente, axillis luteis, loris nigris.

Lin. Syst. Nat. p. 187.

Certhiæ genus numerosum varias species continet coloribus ipsos Trochilos splendore æmulantes. Species jam depicta inter majores sui generis exstat. Color ejus communis est perviridis, cupreo quodam splendore læte super collum ac dorsum diffuso. Rostrum longissimum est. Axillæ, five partes humerorum inferiores sunt flavæ, partes autem exteriores, seu rectrices nigricant, plumis tamen margine viridi cinctis. Remiges, seu pennæ alarum longiores, nec non cauda, sunt atræ, margine etiam viridi cinctæ. Avis est Africana, et in Promontorio Bonæ Spei invenitur.

THE
SHINING CREEPER.



GENERIC CHARACTER.

Bill slender, incurvated. and sharp-pointed.

Tongue differing in shape in the different species.

Legs moderately stout.

Toes placed 3 before, and 1 behind; back toe large: claws hooked and long.

Linnæus. Latham. Pennant.

SPECIFIC CHARACTER, &c.

CREEPER with the 2 middle tail-feathers very long, the body of a shining green, the under wing-coverts yellow, the lores, (*i. e.* the spaces between the bill and eye on each side) black.

Lin.

FAMOUS CREEPER.

Latham. vol. 1. p. 720.

The very numerous genus *Certhia* contains several species whose colours are equal in splendor to the Humming-Birds. The species here represented is one of the largest of the genus. Its general colour is a rich



London. Published Feb. 7. 1790.

by T. P. A. Nodder & Co. N. 13. Ranton Street.

rich deep green, with a very strong tinge of copper-colour, which is most predominant on the neck and back. The bill is very long. The under parts of the shoulders, or axillæ, are yellow, the outward parts black, edged with green. The long feathers of the wings, and the tail, are also black with green margins.

It is an African bird, and is found at the Cape of Good Hope.

LACERTA MONITOR.



CHARACTER GENERICUS.

Corpus tetrapodum, caudatum, nudum.

Lin. Syst. Nat. p. 359.

CHARACTER SPECIFICUS, &c.

LACERTA cauda carinata, corpore mutico
maculis ocellatis.

Lin. Syst. Nat. p. 360.

Seba. Mus. vol. 1. t. 97. *Fig.* 2.

————— vol. 1. t. 94. *Fig.* 1. 2.

————— vol. 2. t. 30. *Fig.* 2. & tab. 49. *Fig.* 2.

————— vol. 2. t. 86. *Fig.* 2.

Nomen Monitor huic Lacertæ datum est, quoniam,
(quod valde dubium videtur,) crocodilo viso, clamorem
argutum præ metu tollere dicitur; hoc modo viatores
de monstro isto appropinquante haud raro admonens.

In magnam molem sæpe crescit Monitor, et gracili
est forma, caudam habens longissimam. Color ejus
communis est niger, albo variatus. Variationes albæ
in fascias transversas macularum circularium centro
nigro dispositæ sunt, et inter has fascias aliæ plerum-
que occurrunt angustæ, seu velut striatæ. Variationes
super caudam, non, ut in reliquo corpore, ad normam,
fed

sed velut temere et fortuito positæ videntur. Crura
pedesque albo transverse maculata sunt. In abdomine
color albus dominatur, striis maculisque nigris plus
minus notatus. Interdum coloribus variat hæc spe-
cies: color ejus nempe primarius est fuscus, aut sub-
ferrugineus, potius quam niger.

Elegans hæc Lacerta in Indiæ Orientalis simul ac
Americæ partibus Australioribus nascitur.



S.N.

London, Published February 1799 by F. D. Nodder & Co. No. 13. Pall Mall Street.

THE MONITOR LIZARD.



GENERIC CHARACTER.

Body four-footed, tailed, naked.

Lin. Syst. Nat.

SPECIFIC CHARACTER, &c.

BLACK LIZARD, marked with transverse bands of ocellated white spots.

This species of Lizard has obtained the name of Monitor, from a circumstance which seems of very doubtful authority. It is pretended that on sight of the crocodile, it sets up a loud and shrill cry through fear, and thus frequently warns travellers of the vicinity of that formidable creature. It grows to a considerable size, and is of a very slender make, and the tail is extremely long. The general colour of the animal is black and white; the black forming the ground-colour, and the white the variegations, which are disposed in transverse bands of annulated spots with black centres, and between these bands are generally some narrowish stripes of white. On the tail the variegations are less regular than on the body. The legs and feet are spotted transversely with white. On the belly the white prevails, which is marked more or less with

with transverse streaks and spots of black. Sometimes this animal varies in colour; the ground being rather brown or ferruginous than black.

This elegant Lizard is found both in the East-Indies, and in the Southern parts of America.



S. N.

London. Published Febry 1790 by F. & J. Nodden & Co. N. 88. Cannon Street.

THE
GREEN POLYPE,
O R
HYDRA.



GENERIC CHARACTER.

Body long and tubular.

Mouth furrounded by arms, or tentacula.

SPECIFIC CHARACTER.

POLYPE with about 8 or 10 arms, or tentacula.

See with new life the wond'rous worm abound,
Rich from its loss, and fruitful from its wound!

The various species of Polype, or Hydra, are justly ranked amongst the most wonderful productions of Nature; so extraordinary are the particulars of their life and mode of propagation, as well as their powers of reproduction after being cut in pieces, that at their first discovery the philosophic world was involved in scepticism; and the History of the animals did not obtain complete credit, till experiments repeated by the most diligent and accurate Naturalists, and varied
in

in every possible manner, at length incontestibly proved the truth of their surprising, and seemingly impossible properties.

As it is the intention of this work to give as short descriptions as the nature of the subject can admit of, we shall, in our account of this animal, only relate in very plain and brief terms the general history of the creature.

The Polype is an aquatic animal, of which there are several species: of these one of the most common is that represented on the annexed plate; *viz.* the Green Polype, or Hydra Viridis of Linnæus. It is a native of clear waters, and may generally be found in great plenty in small ditches and trenches of fields; especially in the months of April and May. It affixes itself by the tail to the under part of the leaves, and to the stalks of such vegetables as happen to grow immersed in the same water. The animal consists of a long tubular body, the head of which is furnished with eight, and sometimes ten long arms, or tentacula, which surround the mouth or opening. It is capable of contracting its body in a very sudden manner when disturbed; so as to appear only like a roundish green spot; and when the danger is over, it again extends itself as before. It is of an extremely predacious nature, and feeds on the various species of small worms, and other water-animals which happen to approach: when any animal of this kind passes near the Polype, it suddenly catches it with its arms, and dragging it to its mouth, swallows it gradually in the same manner as a snake swallows a frog. The Polype has no
anus

anus or vent ; it therefore again evacuates the remains of the animal on which it has preyed, by its mouth. It is capable of swallowing a worm of twice or thrice its own size ; which at first appears incredible ; but is easily understood when we consider that the Polype's body is extremely extensile, and is dilated on such occasions to a surprising degree.

The usual manner in which Polypes propagate is by vegetation ; one or two, or even more young ones emerging gradually from the sides of the parent animal ; and frequently these young ones are again prolific before they drop from the parent ; so that it is no uncommon thing to see two or three generations at once on the same animal. But the most astonishing particular is yet untold ; *viz.* that if a Polype is cut in pieces, it is not destroyed but multiplied by its wounds, and what was said of the fabulous Hydra of the ancients, is here literally true ;

“Fertilis et damnis dives ab ipsa fuis.” *

A Polype of the common size may be very conveniently cut in three pieces, by taking the opportunity, when the creature is fully extended, of introducing a pair of scissars gently into the glass in which it is kept, and dividing it suddenly ; and when the tail-part is again extended, repeating the same operation : in this case the tail-part will produce a new head and arms, the head-part a new tail, and the middle part will reproduce both head, and arms, and tail ; and all these will in a few days become as perfect, except in length,

as

* Rich from its loss, and fruitful from its wound.

as the animal was at first. In short, Polypes may be cut in all directions and in every manner that can be conceived, without injuring them; and will amply repay the trouble attending the experiments by the astonishing views which they will exhibit during their different degrees of growth.

As the green Polype is one of the most common animals of the kind in this country, we have selected it as the best and most familiar example of the genus: Its most general length is from a quarter to half an inch, when extended, exclusive of the arms; but sometimes it grows to a much greater extent. The first discovery of this animal was towards the end of the last century by Leewenhoek; but he was not acquainted with its extraordinary properties of reproduction. It seems to have been neglected after Leewenhoek's observation, 'till the year 1740, when Mr. TREMBLEY of Geneva again discovered it; and by innumerable experiments was convinced of its reproductive nature. His experiments were soon made public; were repeated by all the Naturalists of Europe; several other species were discovered, as well as many other animals which possess the same power of reproduction, and a new Era commenced in the annals of Natural History.

Fig. 1. A Polype magnified.

Fig. 2, 3, &c. Polypes, some in their natural size, and others slightly magnified.

Fig. 7. A Polype seizing a worm.

HYDRA VIRIDIS.



CHARACTER GENERICUS.

Flos. Os terminale, cinctum *Cirris* fetaceis.

Stirps vaga, gelatinosa, uniflora. basi se affigens.

Lin. Syst. Nat. p. 1320.

Class. Vermes. Ord. *Zoophyta.*

CHARACTER SPECIFICUS, &c.

HYDRA tentaculis subdenis brevioribus.

Lin. Syst. Nat. p. 1320.

HYDRA VIRIDISSIMA.

Pall. Zooph. 3.

Leeuwenhoek. Act. Angl. vol. 23. p. 1494.

Ecce! redundabit fœcundo vulnere vermis,

Fertilis et damnis dives ab ipsa suis!

Inter miracula Naturæ juste referuntur variæ generis Hydræ species. Tam ultra fidem singulares sunt earum vita, et propagandi modus, præsertim facultas quam habent vel in frustula dissectæ repullulandi, ut in summo hærent dubio Philosophi; nec horum animalium historia plenam fidem adepta sit, donec experimentis a solertissimis Physicis iterum iterumque factis

factis et omnibus modis variatis, proprietates earum miræ, et primo visu impossibiles, tandem extra omnem dubitationem probatæ essent.

Cum in hoc opere visum sit, res breviter ut possumus, proponere, non longis ambagibus historiam hujus insecti percurramus.

Hydra est animal aquaticum, cujus variæ sunt species; quarum quæ maxime vulgaris est, in tabula depingitur, Hydra nempe viridis Linnæi. In aquis degit imperturbatis, plerumque in fossulis: in rivulis etiam per campos ductis frequens reperitur; præcipue mensibus Martii et Aprilis. Cauda se affigit caulibus plantarum aquaticarum, et paginis inferioribus foliorum. Corpore est longo, tubuloso: capite tentaculis octo seu decem longis, os cingentibus instructo. Corpus ita contrahere potest territa, ut globulum repræsentet; causa vero timoris dempta, rursus in pristinam longitudinem se explicat. Animal valde est vorax; vermiculos aliaque aquas incolentia animalia prædatur. Cum vermiculus, aut aquaticum aliud animal ad Hydram parum fauste accedit, dicto citius eum arripit, brachiis seu tentaculis constringit, ad os attrahit, et ut anguis ranam inhaurit. Ano caret Hydra: omne igitur quod vorat, absorbtis humoribus nutritiis, ab ore ejicit.

Vermiculum bis vel ter seipsam magnitudine superantem devorare facile potest; quod licet plane incredibile videri possit, notandum tamen est Hydram esse corpore valde tensili, et pro rei exigentia mirum in modum dilatato. Hydræ vegetatione sese propagant: junior enim vel duæ vel tres juniores e lateribus parentis erumpunt, ipsæ etiam haud raro fœcundæ antequam

tequam parentem deferunt : ut duas vel tres generationes simul uni animali ad hærentes videre sit. Maxime autem omnium mirabile adhuc indictum est ; nempe quod Hydra in partes dissecta, non destructa sed multiplicata est vulneribus suis ; fabulam de celeberrima antiquorum Hydra verissimam reddens,

“ Fertilis, et damnis dives ab ipsa suis.”

Hydra non præter solitum magna commode in tres partes dividi potest : nempe forficem insinuando intra vitrum in quo servatur Hydra, et arrepta occasione, ad extremum extensam dividendo ; partem etiam posteriorem cum se rursus extenderit, dissecando. Hoc facto, pars posterior novum caput cum tentaculis producet ; anterior pars novam caudam, et media pars novum caput cum tentaculis et nova cauda : elapsisque paucis diebus, omnes æque erunt integræ ac si mansissent invulneratæ. Ut verbo dicam, Hydræ omnibus modis dividi possunt sine injuriâ, et molestiam moramque frequentium experimentorum renatæ satis remunerabunt. Hydram viridem, utpote speciem apud nos vulgatissimam, pro exemplo selegi : communis ejus longitudo est a quadrante uncie ad semiunciam, exclusis tentaculis ; interdum tamen multo major et longior conspicitur. Mirum hoc animal a Leewenhoeckio circiter finem centuriæ jam elapsæ detectum est, qui tamen ejus proprietates ignoravit. Oblitum videtur esse post Leewenhoeckium usque ad annum millesimum septingentesimum quadragesimum, cum iterum a Domino TREMBLEY repertum est ; qui innumeris experimentis, miras omnes qualitates, et præsertim repullulandi facultatem in lucem protulit. Experimenta

ta hæc cito vulgata sunt, et ab omnibus Europæ Physicis repetita. Hoc modo plures Hydræ repertæ sunt, cum variis aliis animalibus eandem repullulandi potestatem habentibus; et nova velut Epochæ in Historia Naturali exorta est.

Fig. 1. Hydra magnitudine aucta.

Fig. 2, 3, &c. Hydræ magnitudine naturali; et aliæ leviter auctæ.

Fig. 7. Hydra vermiculum arripiens.

STRIX PULCHELLA.



CHARACTER GENERICUS.

Rostrum aduncum (absque cera.)

Nares pennis fetaceis recumbentibus obtectæ.

Caput grande: auribus oculisque magnis.

Lingua bifida.

Lin. Syst. Nat. p. 131.

Ord. Accipitres.

CHARACTER SPECIFICUS, &c.

STRIX capite auriculato, corpore cinereo, punctis maculis striisque nigris variato, remigibus albo maculatis.

STRIX PULCHELLA.

Pallas.

Latham. Synops. vol. 1. p. 130.

Avicula, magnitudine naturali in tabula depicta, est omnium noctuarum hactenus cognitarum minima. Inter eas species sui generis militat quæ nomine noctuarum auritarum distinguuntur; quarum nempe tempora fasciculis plumosis exstantibus ornantur. Sibiriam habitat, et varias Moscoviæ regiones. Species est maxime elegans et concinna. Color ejus primarius est dilutissime cinereus, seu canus, punctis innu-

meris maculisque nigris et subferrugineis pulcherrime
irroratus. Alarum remiges, seu pennæ fusco alboque
fasciatæ. Cauda quoque albido leviter fasciata est;
et tota avis coloribus suis avi *Torquilla* non est abfi-
milis. Pectus et abdomen albicant, maculis longitu-
dinalibus nigris notata.



THE
LEAST HORNED OWL.



GENERIC CHARACTER.

Bill hooked, not furnished with a cere.

Nostrils covered with recumbent bristly feathers.

Head large: *Ears* and *Eyes* very large.

Tongue bifid.

SPECIFIC CHARACTER, &c.

HORNED OWL with pale grey plumage, varied with specks and markings of black and brownish; the long feathers of the wings spotted with white.

SIBERIAN OWL.

Latham. Synops. vol. 1. p. 130.

The bird here represented in its natural size, is the least species of Owl yet known; it is of that division of the genus which contains the species commonly called Horned Owls, or such as have a tuft of feathers standing up on each side of the forehead. It is a native of Siberia, and is found in several parts of Russia. It is a species of uncommon elegance of plumage. The

general or ground colour is a very pale grey or ash-colour; curiously sprinkled all over with innumerable points and spots of black, brownish, &c. The long feathers of the wings are barred with brown and white; the tail is also slightly fasciated with white, and the whole plumage bears a very considerable resemblance to that of the Wryneck. The breast and belly are whitish, with longitudinal marks of black.

BOA CANINA.



CHARACTER GENERICUS.

Scuta abdominalia.

Scuta subcaudalia. (absque crepitaculo.)

Lin. Syst. Nat. p. 373.

Class. Amphibia. Ord. Serpentes.

CHARACTER SPECIFICUS, &c.

BOA viridis, fasciis dorsualibus transversis albis,
scutis 203, scutulis 77.

Seb. Mus. vol. 2. tab. 81, 96.

Quamvis plurimæ sint serpentes quæ spectatores horrore et formidine potius quam voluptate afficiunt, multæ tamen sunt species quæ pulcherrimos colores summamque elegantiam jactare possunt. Qui exemplum desiderat adeat anguem *Scytalen* in hoc opere antea depictum. Alterum est exemplum species de qua jam agitur. Genus ad quod hæc serpens refertur, scutorum continuata serie per totam corporis inferioris longitudinem distinguitur.

Laminæ omnes serpentum in parte inferiore, seu ventre, nomine *Scutorum* a Linnæo distinguuntur, necum squamis superioribus confundi possint: sed quoniam scuta quæ sub cauda sunt, ab aliis differunt, utpote breviora seu minus dilatata, fatius puto hæc nomine *Scutulorum* appellare, quo melius a scutis, seu laminis largioribus possint dignosci. Quamvis torvo sit hæc

hæc serpens et maligno vultu, nullo tamen veneno imbutur, et simplici tantum vulnere lædit; utpote telis tubulatis et facculo veneni, quibus noxiæ serpentes armantur, plane carens. Color ejus est subcæruleo-viridis, admodum vividus, per dorsum fasciis transversis albidis variatus: ventrem etiam habet albidum, sed flavo inquinatum. Americæ est incola.

Figura hujus serpentis in Sebæ Thesauro est adeo perfecta, ut potius visum sit eam ipsam imitari quam novam condere. In Linnæi opere, Museum Adolphi Friderici dicto, alia exstat figura, sed minus elegans. In Museo Britannico ipse serpens conspicitur.

Sed audi Linnæi ipsius descriptionem hujus serpentis ex museo Adolphi Friderici.

“*Caput* cordatum, ante oculos oblongum, depressum, postice gibbum, imbricatum squamis parvis: antice, præsertim ad latera, ante oculos, majoribus. *Labium* superius antice retusum, album, emarginatum, lateribus scrobibus scalaribus profundis excavatum, unde horrida facies. *Dentes* versus anteriora, in utrisque maxillis, tam supra quam infra, 2 vel 3 longi, acuti, fixi, nec retractiles. *Nares* lineares, transversæ. *Oculi* orbiculares.

“*Truncus* compressus, præsertim versus abdomen: squamis lævibus. *Abdomen* albidum: scutellis 203. *Cauda* $\frac{1}{7}$ totius, subtus scutellis 77, spithamea, attenuata, obtusiuscula.

“Color viridis fasciis transversis, albis, angustis, tantum dorsalibus, medio interruptis.

“Longitudo quadripedalis. Crassities fere brachii angustioris.”



THE
CANINE BOA,
OR
DOG-HEADED SNAKE.



GENERIC CHARACTER.

Transverse *Lamellæ*, both on the abdomen, and beneath the tail.

SPECIFIC CHARACTER.

GREEN BOA, with white transverse dorsal bands; with 203 scuta on the abdomen, and 77 scutula beneath the tail.

Though the serpent tribe undoubtedly abounds with species which may well be considered rather as terrible than pleasing objects, yet there are not wanting numerous examples of the greatest elegance and beauty of colour in this class of beings. Of this the *Anguis Scytale*, or Painted Snake, figured in a former Number of this Work, may be regarded as a striking instance, and the animal here represented may be adduced as another. The genus of Serpents to which this species belongs, is distinguished by having a continued series of plates, or transverse scales, throughout the whole length of its lower surface.

The

The large plates on serpents are called, in the Linnæan language, by the name of Scuta, to distinguish them from the Squamæ, or scales on the other parts of the body : but as those scuta which are situated under the tail, differ from the rest in being smaller or less extended, and form a separate assortment from the abdominal ones, they should always be called by a name which should instantly distinguish them from the Scuta or larger plates. I have therefore called these smaller scuta by the name of Scutula.

Notwithstanding an appearance of malignity in this animal, it is not of a venomous nature ; that is, it is not capable of inflicting any other than a simple wound by its teeth, as it is unprovided with the tubular fangs and reservoir of poison with which the venomous serpents are furnished.

Its colour is a most beautiful vivid Saxon or bluish-green, with several broad transverse bars of white down the back ; the belly is of a white colour, but slightly tinged with yellow. It is an inhabitant of America.

The figure of this Snake in Seba's Museum is so well executed both as to posture and accuracy, that it was thought better to copy it than to attempt a new one.

In the British Museum is a fine specimen of this animal. It is also figured in the Museum Adolphi Frederici of Linnæus, but the figure in that work is far from having the elegance of Seba's representation.

The description of this serpent by Linnæus in the Mus. Adolph. Frid. is as follows.

“ *Head* cordated, oblong before the eyes, depressed,
“ gibbous behind, imbricated with small scales ; the
“ anterior

“ anterior ones, especially at the sides before the eyes,
“ larger than the rest. Upper *Lip* retuse before, white,
“ emarginated, the sides excavated with a series of deep
“ scalary furrows, which give the face a formidable ap-
“ pearance. *Teeth* situated towards the anterior part
“ of the mouth, 2 or 3 in each jaw, both above and
“ below, long, sharp, fixed, not retractile. *Nostrils*
“ linear, transverse. *Eyes* orbicular.

“ *Trunk* compressed, especially towards the abdomen:
“ covered with smooth scales. *Abdomen* white; *Scuta*
“ 203. *Tail* 1-7th of the whole, attenuated, somewhat
“ obtuse, covered beneath with 77 *Scutula*.

“ Colour green, with transverse white bands, which
“ are narrow and situated on the back only, and some-
“ what broken or interrupted towards the middle.

“ Length 4 feet. Thickness nearly that of the small
“ of the arm. ”

OPHRYS APIFERA.



CHARACTER GENERICUS.

Nectarium subtus subcarinatum.

Lin. Syst. Nat. tom. 2. p. 592.
Gynandria Diandria.

CHARACTER SPECIFICUS, &c.

OPHRYS bulbis subrotundis, scapo folioso, nectarii labio subquinelobo.

Lin. Spec. Plantar. p. 1343.

OPHRYS radicibus subrotundis, labello holose-
riceo, emarginato et appendiculato.

Haller. Hist. vol. 2. 1266. t. 24.

Planta hæc, cui nomen *Ophrys Apifera*, rei botanicæ studiosis probe cognita est: Junio et Julio floret. Super colles, et prope sylvas, solo præcipue cretaceo nascitur; venustatem tamen habet eximiam et peculiarem in umbroso sylvarum secessu reperta. Sic sita injuriam omnem quæ a sole nimium torrido foliis accidere solet, evitat. Flores formosæ hujus plantæ adeo sunt apibus similes, parvo intervallo conspecti, ut qui eam intuentur, in eadem sententia non possint non omnes convenire.

Notum epigramma, parce detortum, *Ophri Apiferæ* non male convenit.

*Dum dubitat vel apem Natura an fingeret herbam,
Conjuxit formas ingeniosa duas.*



THE
BEE OPHRYS.



GENERIC CHARACTER.

The *Nectary* of a somewhat keel-shaped appearance on its lower surface.

Lin. Syst. Nat.

SPECIFIC CHARACTER, &c.

OPHRYS with roundish bulbs, leafy stem, lip
of the nectary notched into five lobes.

Lin.

OPHRYS with 5-petaled flowers, of which the 3 exterior petals are large, acuminate, and of a very pale purple; the 2 interior ones small, very narrow, and greenish; the nectarium large, convex, brown, of a velvety surface, and marked with yellow spots and streaks.

ORCHIS, f. Testiculus vulpinus 2 sphegodes.

Gerard emac. p. 212.

ORCHIS sphegodes, seu fucum referens.

Park. 1350.

The plant figured is well known to the admirers of botany by the title of the Bee-Orchis. It flowers in June and July. It is found principally on hilly grounds, and

and near woods, especially on a chalky soil; but it is never seen in such complete perfection as when it happens to grow in the shade of a wood, as in this situation it escapes all those injuries which the leaves are so apt to suffer, when growing in a too sunny exposure.

So striking is the general resemblance which the flowers, when viewed at a little distance, bear to an Insect, as to have uniformly impressed all observers with the same idea; and may almost justify the application of the epigrammatic description.

Nature in doubt a beauteous Flow'r
Or Insect to disclose,
At length beneath her forming pow'r
They both in union rose.

STRIX NEBULOSA.



CHARACTER GENERICUS.

Rostrum aduncum. (absque cera.)

Nares pennis fetaceis recumbentibus obtectæ.

Caput grande : auribus oculisque magnis.

Lingua bifida.

Lin. Syst. Nat. p. 131.

Ord. *Accipitres*.

CHARACTER SPECIFICUS, &c.

STRIX fusco albidoque transversim fasciata, abdomine albo maculis oblongis ferrugineis,

Penn. Zool. Arct. p. 234.

Arct. Angl. vol. 62. p. 424.

Lath. Synops. p. 133.

Hæc avis inter majores sui generis exstat, quamvis aliis speciebus magnitudine impar. Specimen a Doctore FORSTER in Actis Anglicis descriptum pondere erat librarum trium, longitudine sedecim unciarum, latitudine quatuor pedum. Tota avis fusco albidoque colore transversim fasciata est, fasciis versus caput minoribus et numerosioribus. In imo ventre et super latera sunt maculæ variæ longitudinales, magnæ, ferrugineo-fuscæ. Pallidæ quæ oculos cingunt plumæ,

M

striis

striis concentricis fuscis leviter notantur. Super remiges alarum et caudam fasciæ alternatim albæ fuscæque majores sunt, et magis conspicuæ quam in aliis partibus. Colores totius avis sunt molles et eleganter dispositi. Sinum Hudsoni in America Septentrionali inhabitat hæc avis.



W. A. S.

London, Published

April 1779 by T. C. A. S. Boston Street.

THE CLOUDED OWL.



GENERIC CHARACTER.

Bill crooked (not furnished with a cere.)
Nostrils covered with recumbent bristly feathers.
Head large; *Ears* and *Eyes* large,
Tongue bifid.

Lin. Syst. Nat.—*Accipitres*.

SPECIFIC CHARACTER, &c.

OWL transversely fasciated with brown and whitish, the belly white with oblong ferruginous spots.

BARRED OWL.

Pennant. Arct. Zool. p. 234.

Lath. Synops. p. 133.

This is one of the larger species of Owls, though inferior in size to some others of the genus. A specimen described by Dr. FORSTER in the Philosophical Transactions weighed three pounds, and was in length sixteen inches, and in breadth, when extended, four feet. The whole bird is transversely barred with brown and whitish; the bars being smallest, and most nume-

rous towards the head. On the lower part of the belly, and on the sides, are some large longitudinal marks of ferruginous brown. The feathers surrounding the eyes are of a pale colour, lightly marked with concentric striæ of brownish. On the long feathers of the wings and tail, the alternate bars of brown and white are larger and more conspicuous than on the other parts. The colours on the whole bird are soft, and very elegantly disposed. It is a native of Hudson's Bay.

ACTINIA ANEMONE.



CHARACTER GENERICUS.

Corpus se affigens basi, oblongum, teres: apice dilatabili intus tentaculato.

Os terminale dentibus incurvis; rostro cylindrico radiato.

(*Apertura* præter os nulla.)

Lin. Syst. Nat. p. 1088.

ANIMAL se affigens basi, carnosum, oblongum, teres, contractile, viviparum.

Os terminale, dilatabile, tentaculis cinctum.

(*Apertura* præter os nulla.)

Ellis. Hist. Zooph. p. 1.

CHARACTER SPECIFICUS, &c.

ACTINIA subcylindrica, breviuscula, rubra, tentaculis interioribus ramosis, exterioribus conicis, obtusis.

AN ACTINIA EQUINA?

Lin. Syst. Nat.

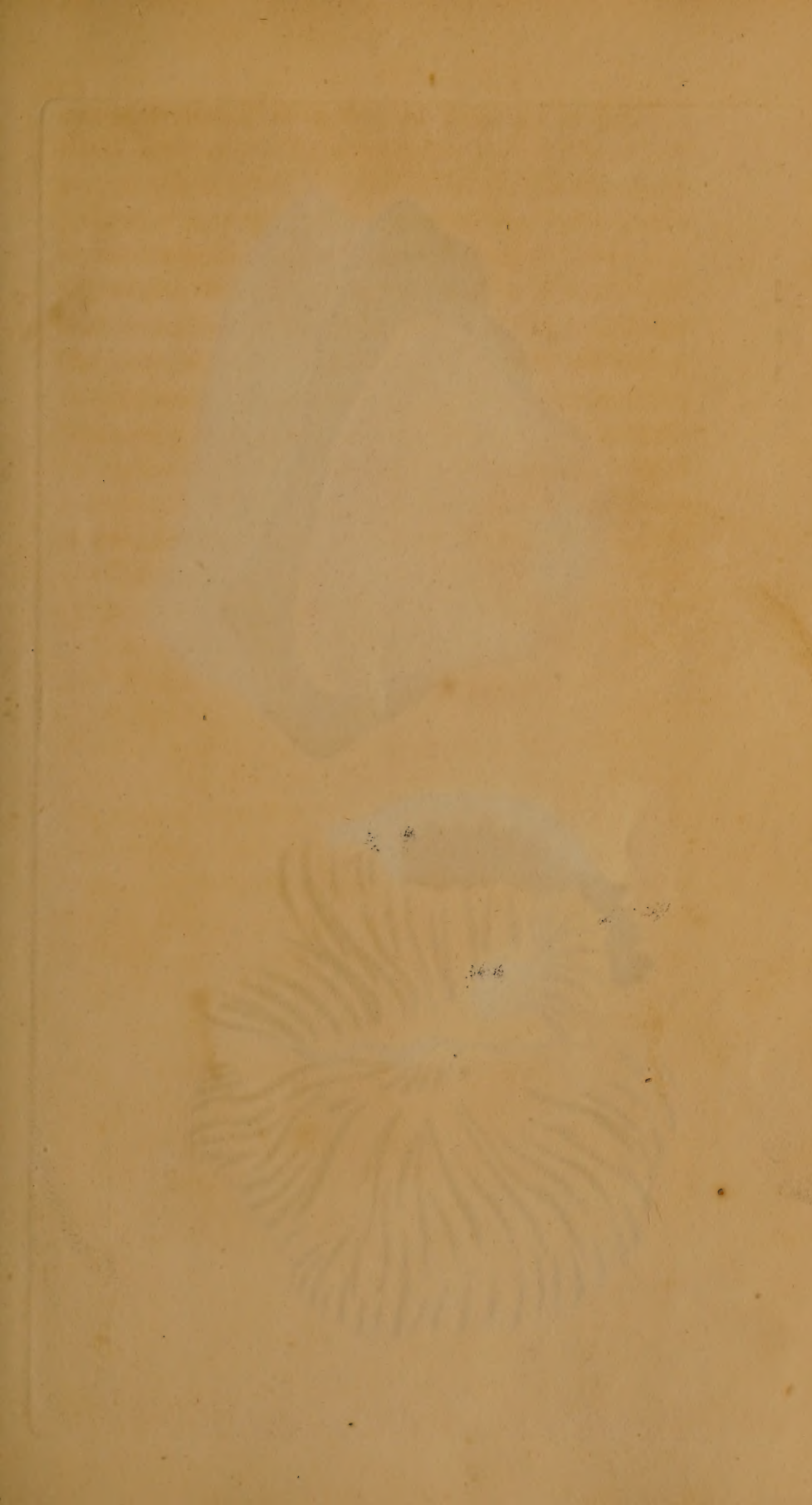
Si Zoologiæ classes inferiores attentius scrutemur, multa inveniemus formæ adeo insolitæ et naturæ velut ambigæ, ut dubium videatur sintne inter plantas, an inter animantes memoranda. Plurima hujusmodi
a cele-

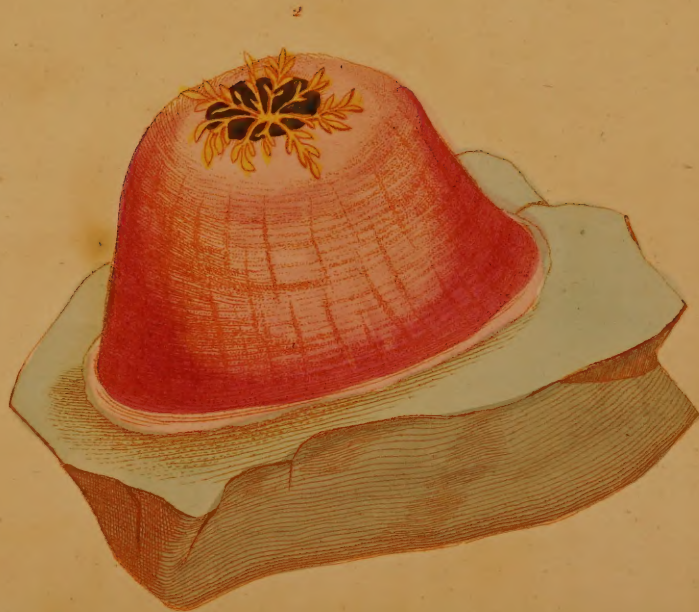
a celeberrimo Linnæo sub nomine *Molluscorum* digeruntur; ita scilicet ordinem constituentia classis Vermium. Inter varia Molluscorum genera nullum genus *Actiniæ* aut pulchritudine aut miro artificio præcellit.

Multæ hujus generis species nomine Anemones marinæ descriptæ sunt, utpote formam floris Anemones, cum expanduntur, præ se ferentes.

Species autem hic depicta, peculiari modo hac appellatione digna videtur: illam igitur nomine *Actiniæ Anemones* distinguere non dubitavi. Quamvis perquam vulgaris sit hæc species in variis Europæ littoribus, et nullis frequentior quam nostratibus, a Linnæo tamen in *Systemate Naturæ* minus videtur descripta. Rupibus arcte adhæret, et mari refluxente, interdum nuda super rupes, plerumque tamen paulum sub aqua relinquitur. Color illi generalis est ruberrimus, plus minus vividus in diversis speciminibus. Magnitudinem repræsentant tabulæ. Dum contrahitur (*Fig. 1.*) cono obtusissimo similis est, apice aperto, quem pro arbitrio penitus claudere potest: plerumque tamen adeo refferatus est apex, ut ramosa aliquot tentacula centralia emergant. (*Fig. 2.*) Animal autem expansum spectaculum exhibet pulcherrimum omnino et mirandum. Duplicem enim, et interdum triplicem in circumferentia ordinem tentaculorum protrudit, forma oblonga, apicibus obtusis, quibus color flavus est, rubro eleganter variatus: hoc modo florem a quo nomen habet, optime exprimens. (*Fig. 3.*) Tentacula centralia nunc non exseruntur, sed ampla in medio relicta est cavitas, in quam si aliquid extraneum introducitur, aut si aliqua tentacula vel leviter tanguntur, illico se fortiter contrahit

contrahit animal, et in formam coni, (ut in *Fig. 1.*)
rurfus subducitur: Hanc Actiniæ speciem interdum
a rupe sua detraxi, vidique illam mirabundus paulo
post, cum languescere cepit, omnia pene viscera pro-
trudentem in formam membranæ inflatæ et late expan-
sæ, coloris, flavescentis, radiis subrubris et viride pal-
lentibus variati. (*Fig. 4.*) Cum hoc fit, tentacula cen-
tralia non exserta sunt, series autem duplex vel triplex
tentaculorum in circumferentia pulchre expanditur.
Viviparæ sunt Actiniæ, sed ab experimentis in nonnul-
lis speciebus hujus generis demonstratur posse animal
(adhibita cautela) in partes abscindi, et hoc modo pro-
pagari, singulis partibus gradatim ad perfectionem re-
pullulantibus.





London, Published April 1st 1790, by F. P. Nodder & Co. N. 13. Pall Mall Street.



London. Published April 1790. by T. P. Aulder & Co. No. 1. Rotten Street.

THE
ANEMONE ACTINIA.
OR,
SEA ANEMONE.



GENERIC CHARACTER.

Body oblong, nearly cylindric, fixing itself by the base, the top expanse and tentaculated within.

Mouth terminal, furnished with crooked *teeth*.

No other *Opening* except that of the mouth.

SPECIFIC CHARACTER.

ACTINIA, of a nearly cylindric shape, shortish, with the interior tentacula ramified, the exterior ones conic and obtuse, Colour red.

When we take a view of the lower orders of Zoology, we find a large and singular set of beings, which are so widely distinct from the other tribes of the animal world, that they seem almost as nearly allied to vegetables as to animals. Many of these curious productions of Nature are arranged by Linnæus under the title of Mollusca; which title is one of the subdivisions of the Linnæan tribe of Vermes. Of the various genera
belonging

belonging to the Mollusca, that of *Actinia* is perhaps the most elegant and curious. Many species of this genus have been called by the name of Sea Anemonies, from a general resemblance which they bear, during their expanded state, to that flower. The species here represented, seems in a peculiar manner worthy of this name. I have therefore given it the title of the *Anemone Actinia*.

Though extremely common on several of the European coasts, and on our own in particular, it does not seem distinctly mentioned by Linnæus in the *Systema Naturæ*. It adheres firmly to the rocks, so as to be frequently left above water at the ebbing of the sea; but it is generally found adhering at some little depth below the surface of the water. Its general colour is a deep red, more or less vivid in different specimens, and of the size represented in the annexed plates.

When in a state of contraction, (as at *Fig. 1.*) it has the appearance of a very obtuse cone, with an orifice at the top, which it can at pleasure close entirely; but which is generally so far open, as just to exhibit a few of the interior branchy tentacula or central parts. (*Fig. 2.*) but when expanded, it presents a most curious and beautiful appearance, (*Fig. 3.*) it then displays a triple row of circular tentacula of an oblong form, with obtuse points, of a yellow colour, and varied with red in such a manner as to bear a very considerable resemblance to the flower from which it is named. In this state the central tantacula are not protruded, but a large cavity appears in the middle, into which, if any extraneous substance is introduced, or even if any of the
tentacula

tentacula are but slightly touched, the animal instantly contracts itself into a conoid shape again, (as at *Fig. 1.*)

I have sometimes taken this species of *Actinia* from its native rock, and have observed that after some time, when it grew languid, it protruded in a most extraordinary manner almost the whole of its interior parts or viscera, in the form of an inflated membrane of a pale yellow colour, and striped very elegantly with rays of red and pale sea-green. (*Fig. 4.*) In this state it does not protrude any of the central or branchy tentacula, but the rows of lateral ones are protruded all round the circumference. The *Actiniæ* are viviparous animals, and experiments have been made on some of the species of this genus, which prove, that they are capable of being cut (with proper care) into several parts, each of which by degrees becomes complete.

PAPILLO POLYMINISTOR

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

PAPILIO POLYMNESTOR.



CHARACTER GENERICUS.

Antennæ apicem versus crassiores, sæpius clavato-capitatae.

Alæ (sedentis) erectæ sursumque conniventes.
(*Volatu* diurno.)

Lin. Syff. Nat. p. 744.

CHARACTER SPECIFICUS.

PAPILIO alia dentatis subconcoloribus nigris, posticis apice cærulescentibus nigro maculatis.

Fabr. Spec. Insect. tom. 2. p. 9.
Eq. Troj.

Elegans hoc insectum, Asiam incolens, est inter species a Linnæo non descriptas. Alæ ejus superiores sunt aterrimæ, nubeculis tamen paucis albescentibus in longitudinem juxta apices ductis, et prope basin nota exstat subtrigona producta coccinea. Alarum inferiorum basis est aterrima et holoserica, pars autem reliqua colorem habet e subcæruleo albicantem, maculis nigris niveisque ornatum.

THE
POLYMNESTOR BUTTERFLY.



GENERIC CHARACTER.

Antennæ, (or *Horns*) thickening towards the upper part, and generally terminating in a knob or club-shaped tip.

Wings (when sitting) erect, and meeting upwards.
(*Flight* diurnal.)

Lin. Syst. Nat. p. 744.

SPECIFIC CHARACTER.

BUTTERFLY with indented black wings, colour of both surfaces nearly the same, the lower wings blueish towards the tips, and spotted with black.

This beautiful insect is one of those species which are not in the works of Linnæus. It is an inhabitant of Asia. The upper wings are of a deep black, with a few longitudinal whitish clouds towards the tips, and a lengthened mark of deep crimson of a somewhat triangular shape, near the base of each. The lower wings are of a deep velvet-black at the base, and from thence of a most elegant whitish or extremely pale blue, ornamented with spots of black and snow-white.



LEMUR TARDIGRADUS.



CHARACTER GENERICUS.

Dentes primores superiores 4: intermediis remotis.

Inferiores 6: longiores, porrecti, compressi, paralleli, approximati.

Laniarii solitarii, approximati.

Molares plures, sublobati; antici longiores, acutiores.

Lin. Syst. Nat. p. 44.

CHARACTER SPECIFICUS, &c.

LEMUR ecaudatus, subferrugineo-cinereus, linea dorsuali fusca.

LEMUR ECAUDATUS.

Lin. Syst. Nat. p. 44.

Singulare hoc animal interdum pro Bradypi specie errantes habuerunt auctores, et nomine Tardigradi Ceylonici descripserunt. Bradypo tamen nequaquam affine est, nisi quod, (ut ipsum nomen vult,) tarde admodum gradiatur; in quo sane ab omnibus aliis sui ipsius generis speciebus insignitur differt: sunt enim illæ ingenii maxime vividi, et motus omnino celerissimi. Notabile etiam est quod vel ullo caudæ vestigio penitus careat. Indiam Orientalem, et præcipue insulam Ceyloniam inhabitat Lemur Tardigradus. Magnitudo

nitudo ejus est fere felis junioris domesticæ. Coloris est pallide fusci: oculi autem circulis obscuris, seu fusco-nigricantibus cinguntur, qui supra caput coeuntes, lineam eodem colore continuatam per dorfi longitudinem ducunt.

Pellis illi est delicatula et mollissima. Facies est quasi antice truncata, naso subacuminato: oculi magni, valde convexi, perfectas velut hemisphærias repræsentant, iridibus coloris fere succinei. Digitus interior pedum posteriorum unguem acutum gerit; cæteri digiti ungues rotundatos et complanatos habent. Sylvas incolit, et fructibus vescitur; sed et animalia fertur devorare; aviculas scilicet; quod (ut mihi videtur) ob insignem tarditatem vix verisimile est. Alia est hujus generis species, vere diversa, huic nostræ tamen in multis similis, cuique etiam cauda deficit; sed multo minor, multo gracilior, et velocior; quam cum Lemure Tardigrado confundunt nonnulli auctores, et communiter nomine *Loris* cognoscunt.



London, Published

May 1790 by W. Woodcock, at No. 1. Pall Mall Street.

THE SLOW-PACED LEMUR.



GENERIC CHARACTER.

Six *Cutting Teeth*, and two *Canine Teeth* in each jaw.

Visage (generally) sharp-pointed.

Feet formed like hands, in the manner of apes.

SPECIFIC CHARACTER, &c.

TAIL-LESS LEMUR, of a subferruginous ashy-colour, with a brown dorsal line.

TAIL-LESS MACAUCO.

Pennant. Hist. Quadr. p. 212.

This curious animal is sometimes improperly regarded as a species of Sloth, and has been called the Ceylon Sloth; but it is not in the least allied to that genus, and has only been so named from the slowness of its motions; in which it differs in the most striking manner from all other species of its own genus, which are animals of the most lively disposition, and the most vivid celerity of motion. Another peculiarity belonging to this creature, is the total defect of a tail, of which not so much as a vestige appears. It inhabits the East-Indies, and particularly the island of Ceylon. Its size

is nearly that of a young cat. Its colour a uniform palish brown, but the eyes are surrounded with circles of deep brown or blackish, which unite on the top of the forehead, and from thence a continued line of brown runs down the back. The fur on the whole animal is remarkably fine and soft. The face very flat, but the nose somewhat sharpened. The eyes are large and extremely convex, so as to appear like perfect hemispheres. The irides are amber-coloured. The inner toe of each hind-foot is furnished with a sharp, crooked claw, while the rest of the toes have flat, rounded nails. It inhabits woods, and feeds on fruit; but is likewise said to eat animal food, and to kill small birds, but this, on account of its extreme slowness, does not seem very probable.

There is another species of this genus, which agrees with this in many particulars, and is destitute of a tail, and has sometimes been confounded with it; but in reality it is a very different species; being much smaller, and having both limbs and body much thinner in proportion: it is called by several authors by the name of the *Loris*.

HELIX HORTENSIS.



CHARACTER GENERICUS.

Animal Limax.

Testa univalvis, spiralis, subdiaphana, fragilis.

Apertura coarctata, intus lunata, f. subrotunda :
segmento circulo dempto.

Lin. Syst. Nat. p. 1241.

CHARACTER SPECIFICUS, &c.

HELIX testa imperforata pallida, fasciis latis interruptis fuscis.

COCHLEA vulgaris major pulla maculata et fasciata hortensis.

List. Angl. tab. 2. fig. 2.

AN HELIX LUCORUM ?

Lin.

Militat omnis amans, et habet sua castra Cupido :
Attice, crede mihi ; militat omnis amans.

Ov.

Helix vulgaris, seu ut communiter vocatur, Cochlea, in numero est animalium quæ ob vilitatem, formamque fordidam et abjectam, a plerisque contemni et negligi solent ; in quibus tamen plura fortasse discernere

cernere potest phycus quæ delectationem admirationemque excitent, quam vel in majoribus animalibus. Cochlearum enim anatome adeo miraculis plena est, ut de variis illarum partibus integrum volumen posset componi. Cum vero longis ambagibus speciatim has minutias describere lectoribus plurimis molestum sit, breviter tantum illa percurremus memoratu dignissima. Oculi Cochlearum in summitatibus duorum longiorum tentaculorum, seu ut vulgo vocantur, cornuum fiti sunt: quod licet a quibusdam phycis dubitatum sit, ab experimentis tamen et accuratissimis Swammerdamii investigationibus clare confirmatur: probatur quoque eos eisdem fere humores, tunicas, et vasa, quibus animalium majorum oculi instruuntur, continere. Non defuere qui Cochlearum cornua pro veris telescopiis naturalibus habuerunt, asserueruntque posse illas ea vel extendere vel contrahere pro distantia objecti ad quod oculos direxerint. Hæc autem idea structuram magis multimodam arguit, quam revera his organis tribuit Natura, et fortasse inter plurimas fit hæc hypothesis, quas ingenio suo indulgere solent nonnulli Naturæ speculatores.

Dentes Cochleæ sunt validi et acuti; omnesque corporis partes tam interiores quam exteriores ad animalis istius mores habitusque egregie accommodantur.

De miro generandi modo dicturus, lectores meos enixe orem necesse est ut nec me fabulas philosophicas fingere existiment, nec fidem suam deficere et immiui sinant.

Si quidem vera nobis referunt oculati Naturæ inter animalia inferiora investigatores, Cochlearum amores inusitato

inufitato et fibi peculiari quodam more promoventur ;
femperque ipfum complexum præcedit mira formula,
quæ pugnæ ftatariaæ faciem omnino exhibet.

Cochleæ lascivientes mutua vota telorum parvulo-
rum ictibus, quæ peracuta funt et quafi cornea, fibi
invicem communicant ; illisque refertam pharetram
exiguam, in dextro latere cervicis fitam, quamdiu per-
manferit illis conjunctionis defiderium, intus gellant.
Emiffo primo telo, illico refpondet Cochlea vulnerata,
et fimile in amantem jaculatur ; ab illa telum alterum
emittitur, rurfusque ipfa invicem percutitur ; Cupidi-
nisque fagittæ, quas per omne ævum cecinit fervidum
poetarum et amantium ingenium, in ipfa tandem Na-
tura revera inveniuntur. Peraçto hoc lepido prælio,
coeunt Cochleæ, et deinde locum idoneum ubi ova fua
deponant follicitè quæritant ; humidum nempe et opa-
cum receffum, vel fub terræ gleba, vel cavo aliquo teg-
mine. Rotunda funt hæc ova, magnitudine fere pifo-
rum parvulorum, coloris albi fubpellucis, et fub-
ftantiæ mollis. Ex his excluduntur Cochleæ plene
formataæ, teftas fuas in dorfo ferentes, nec ullam aliam
mutationem præter naturale molis incrementum fube-
unt. Hortis et pomariis damnum non leve inferre fo-
lent Cochleæ, et notatu dignum eft, illas, fi defecerit
cibus fucculentus, fructus nempe aut folia, corpora
etiam dura et ficca rodere : memini enim egomet He-
licem hortenfem, (qualis eft illa quæ hic depingitur,) fub vitro cujus diameter quatuor uncias fuperabat in-
clufam, fubftatam chartam communem cæruleam una
nocte ufque ad ipfius vitri marginem devoraffe ; circu-
lo relicto velut ab ipfo circino designato.

Ab experimentis Spallanzanii aliorumque probatur, Cochleas, abscissa aliqua parte, repullulandi facultatem habere: ipse enim Spallanzanius Cochleæ caput abscidit, quod, elapso certo tempore perfecte regerminabat. Hujus experimenti veritas, licet a nonnullis denegetur, ab aliorum tamen doctissimorum physicorum testimonio fatis comprobatur.

Quamquam variis intervallis sagittas suas jaculentur Cochleæ, fatendum tamen est tabulam repræsentare illas plus æquo a se invicem remotas. Plerumque propius accedunt; immo interdum fit ut telum ipsum, gladii instar, in corpore opposito infixum stet, dum Cochlea quæ jaculum emisit, recedit paululum, sagittam quasi commilitonis sui expectans.



London, Published May 1st 1790 by F. P. Nodder & Co. N^o. 3 Panton Street.

T H E
G A R D E N S N A I L.



GENERIC CHARACTER.

The *Animal* a Slug.
Shell spiral, sub-pellucid.
Aperture semi-lunar.

SPECIFIC CHARACTER, &c.

SNAIL with a shell of a pale colour, with broad interrupted bands of brown.

The COMMON GARDEN SNAIL.

See to the fight the gentle warriors move,
And dart with harmless force the shafts of love !

The Snail is amongst the number of those animals which we are apt to overlook on account of their seemingly contemptible appearance, but which will perhaps open to our attentive survey a greater variety of curious particularities than most other creatures can exhibit. The anatomy of the snail is full of wonders, and a volume might be written on its history ; but, without descending to a tedious narrative of all its parts, I shall only mention a few of the most remarkable ones. The eyes of Snails are situated on the tips of the two longest horns, and though their existence

has

has been questioned by some Naturalists, yet the accurate research of SWAMMERDAM has sufficiently proved their real nature, and that they are furnished with nearly the same humours, coats, and vessels as in most of the larger animals. Some authors have supposed the horns to be a kind of natural telescopes, and that the animal shortened or lengthened them according to the distance of the objects to which it directed them; but this idea seems to imply a more complicated structure than can be found in this organ, and, I believe, must be given up as one of those ingenious hypotheses which are too frequently entertained by speculative enquirers.

The teeth of the Snail are sharp and strong, and all the internal as well as external parts of the creature are admirably calculated by Nature for the mode of life to which it is destined.

But the most wonderful part of the history of the Snail, is its manner of breeding; and I must request my readers to summon all their philosophical faith to receive the surprising particulars.

If the observations of the most profound enquirers into the operations of Nature amongst the lower orders of animals may be depended upon, the amours of Snails are conducted in a manner very different from those of most other creatures, and are always preceded by a very extraordinary ceremonial, which has all the appearance of a regular combat.

When these animals are disposed to love, they signify their mutual wishes by launching several little darts at each other. These darts are of a very sharp form, and of a horny substance, and the animals are provided with

with a little quiver or reservoir of them during the breeding season: this internal quiver or repository of the darts is situated within the neck, and opens externally on the right side. Upon the discharge of the first dart, the wounded Snail immediately retaliates upon the aggressor, and discharges a similar one; the other again renews the battle, and is again in its turn wounded; and thus the darts of Cupid, so long and loudly celebrated by poets and lovers, and which are metaphorical with all the rest of the creation, are here completely realized. When the animals have continued for some time the combat just described, a reconciliation takes place, and they unite; after which they are solicitous to deposit their eggs in a place of safety. For this purpose they choose a moist, cool situation, generally under some little clod, or in some small sheltered cavity, in which they place them: they are perfectly round; about the size of very small pease, of a semi-transparent white colour, and of a soft substance: from these the young are hatched completely formed, and with their shells on their backs, and undergo no farther change than a gradual increase of size.

The depredations which these animals commit in gardens and orchards is very considerable, and it is remarkable that in defect of moist succulent food, as fruit and tender leaves, they will even attack substances of a hard and dry nature. I have known the common garden Snail here figured, when confined for one night under a glass of more than four inches in diameter, which was placed on a sheet of common blue paper, entirely devour the whole paper contained in the included

ded space, to the very edge of the glass, so that a circular piece seemed almost as accurately taken out, as if marked by a pair of compasses.

From the experiments of SPALLANZANI and others, it appears that Snails are possessed of a very considerable degree of reproductive power. SPALLANZANI in particular, has found that the whole head of a Snail may be cut off, and yet in a certain space of time will be reproduced. This has been denied by some, but its truth is established by experiments conducted by the most careful and accurate observers.

It is necessary to add, that the Snails in the annexed plate, are represented at somewhat too great a distance from each other; this is a circumstance which admits of great variation, but in general the animals make a nearer approach before they dart their spicula; and in some particular instances they have been known to approach so near during this action, that the dart has been infixed in the manner of a sword, in which case the animal that discharged it, withdraws again to some little distance, and seems to wait for a similar attack.

SPARUS? FORMOSUS.



CHARACTER GENERICUS.

CAPUT: *Dentes incisores* vel *Laniarii* robusti;
Molares obtusiusculi, conferti. *Labia* duplicata.

Memb. branch. radiis 5. *Opercula* squamosa.

Corpus compressum. *Linea* lateralis postice curvata. *Pinnæ* pectorales rotundatæ.

Lin. Syst. Nat. p. 467.

CHARACTER SPECIFICUS.

SPARUS RUBER, corporis maculis longitudinalibus variis, apiceque caudæ, cæruleis.

Inter illos est pulcherrimus hic piscis quos in *Système Nature* non descripsit Linnæus. Secundum normam Linnæanam ad genus *Spari* referendus est. Faciendum sane est *Spari* et *Labri* characteres non satis accurate distingui, speciesque esse aliquas quæ æquali pene jure ad alterutrum genus pertinere videantur. Testis sit species de qua jam agimus, quamque Dominus ASCANIUS in Opere suo *Figures enluminees d'Histoire Naturelle du Nord* dicto, speciem **Labri* esse voluit. Huic nostro maxime affinis esse videtur piscis, a Pennantio *Striped Wrasse* nominatus. *Spari* et *Labri* species
variis

* Et fortasse revera potius *Labrus* quam *Sparus*.

variis plerumque et vividis coloribus superbiunt; ut plurimum quoque, pisces sunt exteri et adventitii; at supradictus ille quem descripsit Pennantius, interdum circa littora Britannica conspicitur. Unde delatum fit individuum hoc specimen in tabula depictum, et adhuc in Museo Leveriano conservatum, nobis non satis liquet. Verisimile tamen est piscem esse Britannicum.

Figura nostra magnitudine naturali fere dimidio minorem illum repræsentat. Notatu dignum est nullam aut Labri aut Spari speciem in grandi illo Opere Ichthyologico Domini Bloch fuisse depictam: quod sane magis mirandum, cum apud multos auctores horum piscium figuræ reperiuntur quas ille commode satis, unde et alias plurimas mutuatus est, in Ichthyologiam suam transtulisset.



THE BEAUTIFUL SPARUS.



GENERIC CHARACTER.

Teeth (generally) strong, and somewhat obtuse.

Lips double.

Membrane of the *Gills* furnished (generally) with
5 rays.

Pectoral Fins of a rounded form.

SPECIFIC CHARACTER.

RED SPARUS, with the various longitudinal
marks on the body and the tip of the tail
blue.

The beautiful fish here represented, is amongst the number of those which are not to be found in the *Syftema Naturæ* of Linnæus. The genus to which it belongs should, according to Linnæus's own rules, be that of Sparus; but it must be confessed that the characters of the two Linnæan genera of Sparus and Labrus are not quite sufficiently distinguished, and several species may be observed which might with almost equal propriety be referred to either genus. As a proof of this, I cannot but observe, that in the Work of ASCANIUS, entitled *Figures enluminees d'Histoire Naturelle du Nord*,

du Nord, this fish is given as a species of *Labrus*.*

It seems very nearly allied to the species which Mr. Pennant in his *British Zoology* has called the *Striped Wrasse*. The genera of *Sparus* and *Labrus* are both remarkable for the vivid colours which frequently adorn the species belonging to them. Most of them are natives of the extra-Britannic seas; but the striped Wrasse of Mr. Pennant, to which this fish is so nearly allied, has been sometimes caught on our own coasts. Where the individual specimen was taken, from which this figure was copied, and which is now in the Leverian Museum, I have not been able to learn; but there is reason for supposing it to be a British fish.

It is represented about half the size of the specimen itself.

It is singular that no species either of *Sparus* or *Labrus* has yet been figured in the superb *Ichthyology* of Dr. Bloch; especially as there are not wanting numerous figures of these fish in the works of several authors, from whom he might have copied them with the same ease that he has done those of a great many other fishes introduced in the course of his Work.

* And perhaps it is really rather a *Labrus* than a *Sparus*.

ANAS OCCIDUA.



CHARACTER GENERICUS.

Rostrum lamelloso-dentatum, convexum, obtusum.

Lingua ciliata, obtusa.

Lin. Syst. Nat. p. 194.

Ord. *Anseres*.

CHARACTER SPECIFICUS, &c.

ANAS albo-variata, fascia frontis occipitisque vi-
rente, pennis scapularibus falcato-dependen-
tibus, rostro-pedibusque nigris.

ANAS STELLERI.

Pall. Spic. 6. p. 35. t. 5.

Anatis perpulchra hæc species nomen habet a pa-
tria; Americæ quippe littora occidua præcipue in-
habitat. In Kamtschatka etiam invenitur, ubi in ru-
pibus inaccessis pullos suos educat. Gregatim con-
volant hæ Anates, nec unquam, ut perhibent, rivos
intran, sed in littoribus maritimis semper degunt.

A specimine eximio hujus avis in Museo Leveriano,
conservato, figuram hanc nostram depingi curavimus;
ab eodem etiam specimine figuram suam in Zoologia
Arctica expressit Pennantius. Magnitudine Anatem
Penelopen æquat.

THE WESTERN DUCK.



GENERIC CHARACTER.

Bill broad and flattened; the edges marked with sharp lamellæ.

Tongue broad and ciliated at the edges.

SPECIFIC CHARACTER, &c.

VARIEGATED DUCK, with a frontal and occipital band of green; the scapular feathers falcated downwards; the bill and legs black.

WESTERN DUCK.

Lath. Synops. 3. p. 532.

Pennant. Arct. Zool. p. 564.

The beautiful species of Duck here represented, is named the Western Duck from its having been principally found on the western coasts of America; but it is likewise an inhabitant of Kamtschatka, where it breeds amongst inaccessible rocks. It is said to fly in flocks, and never to enter the mouths of rivers, but to confine itself to the sea-coasts. The elegant specimen in the Leverian Museum was the individual from which this figure was taken: Mr. PENNANT's figure of this bird in the Arctic Zoology was also drawn from the same specimen. The size of this species is nearly that of a Wigeon.



London, Published June 1st 1790 by T. P. Neill & A. S. Panton Senes.

MACROPUS GIGANTEUS.



CHARACTER GENERICUS.

Dentes primores superiores 6, emarginati.

Inferiores 2, validissimi, acuminati, antrorsum porrecti.

Molares utrinque 4? remoti.

Pedes antichi brevissimi; postici longissimi.

Folliculus abdominalis. (Fœminæ)

G. S.

CHARACTER SPECIFICUS, &c.

MACROPUS cauda sensim attenuata.

G. S.

YERBOA GIGANTEA.

Zimmerman. 526.

KANGUROO OPOSSUM.

Pennant. Hist. Quadr. p. 306.

Inter quadrupedes anomalum omnino et singulare est animal *Kangaroo* dictum. Genus a PENNANTIO disponitur nomine *Didelphis* seu *Opossum*, cui sane maxime est affine. Affine tamen est et Murini generis certis speciebus, quas describit LINNÆUS, quibus pedes posteriores insolitæ sunt longitudinis, pedesque anteriores insolitæ brevitatis. Inter illas est species valde singularis, communiter *Ferboa* nominata, quæ a LIN-

NÆO Mus Jaculus dicta est, cui gestus situsque corporis sunt avi similes, pedibus utpote posterioribus tantum insistenti, anterioribus non nisi inter edendum, et terram pro cubili scalpendum utenti. Differt in hoc *Kanguroo* a *Ferboa*, quod dum pedibus tantum posterioribus quiescit, metatarsum? adeo productum habet ut primo intuitu tota velut tibia videatur terræ inniti: at *Ferboa* pedibus solis nititur. *Kanguroo* fœmina facculum habet in abdomine, ut et vulgaris seu magna *Didelphis*. Utrique maxillæ insunt quatuor? dentes molares, ab aliis dentibus remoti. Maxillæ superiori insunt sex dentes incisores, validi, lati, paulum bifidi, seu medio leviter exciso. (emarginati.) In fronte maxillæ inferioris sunt dentes duo prominentes, maximi, validissimi, acutissimi. Pedes anteriores in quinque digitos longos divisi sunt, unguibus acutis munitos. Pedum autem posteriorum forma est valde singularis; Primo intuitu tridactyli apparent, digitis nempe tribus instructi. Digitus medius validissimus, maximus, ungue itidem maximo et validissimo armatus. Digiti laterales utrinque minores sunt, unguibus proportionatis; quorum interior, si prope conspicitur, duplex videtur, sive ex unguibus duobus valde vicinis constans. Pedes itaque posteriores revera sunt tetradactyli, seu digitis quatuor instructi. Hæc observatio (quæ, ut videtur primos spectatores effugit,) certe est accurata; possit etiam esse utilis; affinitatem enim maximam demonstrat inter hanc speciem et aliam a pictore *Le Brun* nomine *Philandri* descriptam, in qua unguis interior duplex plane conspicitur. In alia quoque *Kanguroo* specie Novam Hollandiam cum *Kanguroo* magno inco-

lente

lente, eadem observatur pedis structura. In suo genere *Kanguroo* est species facile maxima; utpote ovi adultæ magnitudine par. Caput collumque, cum parte corporis superiore gracilia sunt; corporis autem pars posterior permagna est et carnosæ. Insolitæ est agilitatis, saltibus altis adeo et longis progrediens, ut canes *Graii* dicti facile ab illo in cursu superentur.

Novam Hollandiam incolit *Kanguroo*, ibi frequenter conspectus. Victum præbet non infalubrem. Vegetabilibus folis vescitur.

THE
GREAT KANGUROO.



GENERIC CHARACTER.

Six *Cutting Teeth* in the upper jaw, slightly emarginated.

Two very strong, sharpened *Teeth* in the lower jaw, pointing forwards.

Grinders on each side 4? distant from the other teeth.

An *Abdominal Pouch*. (in the female.)

G. S,

SPECIFIC CHARACTER, &c.

KANGUROO, with the tail gradually attenuated.

G. S.

KANGUROO OPUSSUM.

Pennant. Hist. Quadr. p. 306.

KANGUROO.

Cook's Voyage. 3. p. 577.

The Kangaroo is a very anomalous and extraordinary quadruped. The genus to which it bears the greatest affinity, is that of *Didelphis* or *Opossum*, in which
genus



London. Published June 1790 by T. P. A. Nodder & Co. V. B. Panton. Scute.

genus it is placed by Mr. PENNANT; but it has also some affinity with those species of the Linnæan genus *Mus*, which are furnished with hind legs of a very remarkable length, and fore-legs as remarkably short. One of the most singular of these is the creature called the Jerboa, which is the *Mus Jaculus* of Linnæus; an animal which has the general actions and attitudes of a bird; standing on its hind legs, and making use of the fore-legs only in feeding and in scratching or burrowing in the ground.

The Kangaroo, like the Jerboa, rests only on its hind legs, but the whole metatarsus? having the appearance of the tibia, rests on the ground, whereas the Jerboa more frequently seems to stand on the feet alone. The female Kangaroo is furnished with a ventral pouch, in the same manner as the large or common Opossum. In each jaw there are 4? grinding teeth, or *dentes molares*; these are situated backwards, at a distance from the front-teeth. Of these, *viz.* the front or cutting teeth, (*incisores*,) there are 6 in the upper jaw, of a broad shape, and appear as if approaching to a bifid figure, or with a part cut out from the middle edge (*emarginated*). In the front of the lower jaw are two extremely large, sharp, and strong teeth, which incline forward. The fore feet are divided into five longish toes, with sharp claws; but the structure of the hind feet is extremely remarkable. At first view, the foot seems to be tridactylous, or to consist of three toes; the middle toe is most uncommonly strong and large, and furnished with a claw of proportional magnitude; the side toes are much smaller, and the
claw

claw of the interior one, if closely examined, will be found to be double, or to consist of two claws very close to each other; so that in reality, the hind feet are tetradactylous, or have four claws. This particular, (which seems to have escaped the first observers) is both curious and important, as it seems to shew how very nearly this animal is allied to another anomalous species of quadruped, which has long ago been described by Le Brun, the painter, under the name of the Philander, in which the same particularity (*viz.* the double inner claw) takes place; as likewise in a small species of Kangaroo, which, like the large species here figured, inhabits New Holland.

The tail of the Kangaroo is very long, and gradually tapers to the end.

The Kangaroo is by far the largest animal of its genus; being as large as full-grown sheep. Its head and neck, and whole upper parts are very slim and delicate; while the lower part of the body is very large and muscular. It is a creature of surprising agility, and springs forwards, by leaping to so uncommon a height, and to so great a distance, as to outstrip the fleetest pursuit; the swiftest greyhound being easily and soon distanced by this wonderful quadruped.

It is a native of New Holland, where it is found in plenty, and is esteemed a useful article of food.

SCARABÆUS HERCULES.



CHARACTER GENERICUS.

Antennæ clavatæ capitulo fissili.

Tibiæ anticæ sæpius dentatæ.

Lin. Syst. Nat. p. 541.

CHARACTER SPECIFICUS, &c.

SCARABÆUS scutellatus, thoracis cornu incurvo maximo: subtus barbato unidentato, capitis recurvato: supra multidentato.

Lin. Syst. Nat. p. 541.

Rösel. Inf. 2 *Scarab.* 1. tab. A. fig. 1. et *Inf.* 4. tab 5. fig. 3.

Edw. Av. tab. 334.

Quis, ait celeberrimus BUFFONUS, efficit ut de summo mundi Creatore altius sublimiusque concipiamus? an ille qui soles et planetas potestate sua formantem, mundorumque circulos gubernantem depingit; an qui apum œconomiam ordinantem, aut alas Scarabæi serio et sedulo plicantem? Talis equidem tanti viri sententia Historiæ Naturalis minutiores partes investigantibus foret inimicissima, utpote vix hominis literati studio dignas,

dignas, aut faltem præ majoribus et nobilioribus Zoologiæ partibus fordidas, nifi quod et alii de hac re cenfuerint in eadem ponamus trutina; viri nempe non minus ingenio vivido et pollenti, quam virtute per omne ævum laudandi. Perilluftris Boylius breviter et nervofe fuam ita fententiam edidit; fe non tam Naturæ majoribus horologiis, quam parvulis et minutis ftupescere; Deumque plane dixit effe maximum in minimis. Et profecto fi elephantis aut rhinocerotis molem giganteam miramur, acarum attoniti contemblemur neceffe eft, cui plura funt membra, corpusque magis complicatum quam animalibus majoribus. Ad fumum vero augetur nobis admiratio, innumera ifta animalcula explorantibus, quæ non nifi microfcopii ope videnda funt; quibus vel ipfe acarus eft quafi elephas. Immortalis PLINII fententia de his parvulis Naturæ operibus ex ipfius verbis conftat. “ In his tam parvis, tamque fere nullis, quæ ratio! quanta vis! quam inextricabilis perfectio!”

Infectum vero, quod nunc describere pergimus, nequaquam ad minora infecta pertinet, fed inter maximas fui generis fpecies numeratur. Phyficis probe cognitum eft, et a multis defcriptum. Americani incolit calidiorem, et inter alios fcarabæos præminet cornu in vafam longitudinem e thorace extenfo necnon alio cornu a capite orto, et furfum tendente, donec cornu thoracis pene occurfet. Cornu fuperius fuperficiem habet inferiorem villo, feu tomento denfo holoferico elegantiffime veftitam. Infecta hæc (ut fertur) Mammææ Americanæ ramulos cornubus complexa, circum-gyrando vulnerant, ut humorem ab arbore incifa
ftillantem

stillantem forbeant ; quo mox inebriata in terram decidunt, et facillime capiuntur. Huic tamen famæ, ut doctus observat FABRICIUS, fides non temere habenda est, quoniam, ut antea diximus, cornu, cui superficies inferior barbata est, hoc modo abrasum omnino denunderetur. Insectum hoc, ob molem insignem, optimum præbet exemplum characteris generici. Magnitudine multum variat. Dubitari etiam merito potest, annon minora aliqua specimina veluti speciem diversam descripserint auctores ; exempli gratia Scarabæum Alcidem FABRICII, adeo huic nostro affinem, at vix probe separari queat, quamvis multo sit minor, cornuaque minus conspicue dentata gerat.



THE
HERCULES BEETLE,



GENERIC CHARACTER.

Antennæ divided at the tip or head into several lamellæ.

Tibiæ, (or second joints of the fore legs) generally toothed.

SPECIFIC CHARACTER, &c.

BEETLE, with the thoracic horn very large, bent downward, bearded beneath, furnished with a single tooth, and bifid at its extremity: the horn on the head bent upwards, and furnished on its upper part with several teeth.

Rösel. vol. 2. plate A. fig. 1. and vol. 4. plate 5. fig. 3.

Drury, vol. 1. plate 30. fig. 1.

Edwards, vol. 7. plate 324.

Who, says the celebrated Count De BUFFON, gives us the grandest and, and most magnificent ideas of the Creator of the universe? He who represents him superintending the formation of suns and of planets,
and

and guiding the revolutions of worlds, or he who discovers him busied in regulating the œconomy of an hive of bees, or deeply engaged in folding the wings of a beetle? Such an observation, from so elevated a character, might be capable of exciting a very wrong and unfavourable idea, with respect to the study of the smaller branches of Natural History; as if unworthy of any considerable share of attention, or at least of but slight importance, when compared with the higher orders of Zoology. But let us recollect the sentiments of other men, of the most comprehensive minds, the most brilliant abilities, and the most exalted piety and virtue.

The celebrated Mr. BOYLE used to express himself on this subject in a somewhat singular phrase, viz. That for his own part, his wonder dwelt not so much on the clocks as the watches of Nature; and that the Creator appeared in reality to be *maximus in minimus*. If we are struck with admiration at the prodigious bulk of the elephant, or the rhinoceros, we are lost in astonishment at the contemplation of a mite, for in that animal there is a more complicated structure, and a greater variety of parts than in the larger animals; and how must this astonishment increase, when we contemplate by the help of glasses, those innumerable legions of animalcula, compared to which, a mite may itself be regarded as a kind of elephant.

The opinion of PLINY on the minuter parts of Nature is evident, from his own words. “ In his tam parvis tamque fere nullis quæ ratio! quanta vis! quam inextricabilis perfectio!”.

The

The insect, however, which makes its appearance on the present plate, is not amongst those of the smaller order; but on the contrary, is one of the most gigantic animals of the class to which it belongs. This curious creature has long been known to the admirers of Natural History, and has been figured by several authors. It is a native of the warmer parts of America, and is remarkable for the excessive length of the horn, which proceeds from its thorax, as well as for another horn which proceeds from its head, and bends upwards, so as almost to meet the thoracic one. The uppermost of these horns, or processes, is most curiously coated on the inner surface, with a fine hair or velvet-like substance.

It has been said that these insects have a custom of taking hold of the slender branches of the *Mammæa Americana*, and swinging themselves round with such rapidity, as to wound, by this circular motion, the branch on which they fasten, in order to be enabled to suck the juice distilling from the tree; by which they are soon inebriated, so as to fall in great numbers on the ground, and to be easily taken. But this account, as the learned FABRICIUS has well observed, seems not very probable; since the thoracic horn being bearded on its lower surface, would undoubtedly be made bare by this operation. This Insect, from the remarkable size of all its parts, affords an admirable example of the characters of the genus to which it belongs.

It varies much in size, and it may even be much doubted whether some of the smaller specimens have not been regarded as distinct species by authors: such, for instance, is the *Scarabæus Alcides* of FABRICIUS,
which

which seems so extremely nearly allied to the Hercules, as scarce to admit of separation, notwithstanding its size, which is hardly more than half that of the former; and the horns not furnished with such remarkable denticulations as in the Hercules.

PSITTACUS PULLARIUS.



CHARACTER GENERICUS.

Rostrum aduncum : mandibula superiore mobili,
cera instructa.

Nares in rostri basi.

Lingua carnosæ, obtusa, integra.

Pedes scanforii.

Lin. Syst. Nat. p. 139.

CHARACTER SPECIFICUS,

PSITTACUS brachyurus viridis, fronte rubra,
cauda fulva fascia nigra, orbitis cinereis.

Lin. Syst. Nat. p. 149.

PSITTACUS GUINEENSIS.

Edw. Av. t. 237. f. 1.

Lath. Synops. 1. p. 309.

In caveis inclusam hanc aviculam plerique tam frequenter conspexerunt, ut hoc ipsum ab admiratione detrahat quam aliter sibi vindicaret excellens pulchritudo. Historiæ naturalis cultoribus tam probe cognita est hæc species, ut illam peculiariter describere non sit necesse: fatis sit dicere speciem esse pulcherriam; moresque ejus suaves et mansuetos formæ tam

eximiæ bene respondere. Africæ est indigena, et in
Guinea frequentissima est. In India etiam Orientali
invenitur. Nomen ejus Anglicanum commune est
Guinea-Sparrow.



London Published July 1790

by F. P. A. Nodden & Co. N. 13. Panton Street.

THE
GUINEA PARRAKEET.



GENERIC CHARACTER.

Bill hooked. Upper mandible moveable.

Nostrils round, placed in the base of the bill.

Tongue fleshy, broad, blunt at the end.

Legs short. Toes formed for climbing, viz. two backward and two forward.

Linnæus and *Pennant*.

SPECIFIC CHARACTER, &c.

SHORT-TAILED GREEN PARROT, with
red front; tail fulvous with a black bar;
orbits of the eyes grey. *Lin.*

RED-HEADED GUINEA PARRAKEET.

Latham, fol. 1. p. 309. / v

This beautiful little bird is so often seen in cages, that the circumstance of its not being a rare species seems in some degree to lessen the admiration due to its uncommon elegance. As it is so well known to Naturalists, it is unnecessary to say more than that it is one of the most brilliant of its genus, and that the beauty of its appearance is equalled by the gentleness

of its manners. It is an African bird, and abounds in Guinea. It is also found in the East Indies. In England this bird is generally called by the name of the Guinea-Sparrow.

MANIS TETRACTYLA.



CHARACTER GENERICUS.

Dentes nulli.

Lingua teres, extensilis.

Os angustatum in rostrum.

Corpus squamis tectum.

Lin. Syst. Nat. p. 52.

CHARACTER SPECIFICUS, &c.

MANIS pedibus tetractylis.

Lin. Syst. Nat. p. 53.

LACERTUS squamosus peregrinus.

Clus. Exot. 374.

Tam prope accedit hæc Manis species ad similitudinem Manis Pentactylæ, in priore numero hujus operis depictæ, ut a quibusdam physicis varietas potius quam species distincta censeatur. Linnæus etiam ipse, cum characterem illi specificum statuerit, addit, "præcedenti nimis affinis." Caudæ tamen longitudo, quæ in omnibus speciminibus a meipso observatis, illam Manis Pentactylæ longe superat, squamæque magis oblongæ, acuminatæ etiam et striatæ, seu fulcatæ, nec non corporis forma gracilior, cum aliis differentiis, quæ accurate perpendenti physico patebunt, clare demonstrant

monstrant hanc speciem alteram omnino et diversam
esse. Quod ad habitus vitæque mores attinet, ea
omnia in historia alterius speciei antea descriptæ nu-
merantur. Nihil igitur restat, quin ut illam ipsam
descriptionem adeat lector.



London Published July 1st 1790 by F. P. & Co. A. S. Panton Street.

THE
FOUR-TOED MANIS.



GENERIC CHARACTER.

No Teeth.

Tongue cylindric and extenfile.

Mouth narrowed into a snout.

Body covered with scales.

SPECIFIC CHARACTER, &c.

MANIS with tetradactylous (or four-toed) feet.

Lin.

LONG-TAILED MANIS.

Pennant. Hist. Quadr. p. 504.

This species of Manis makes so very near an approach to the Manis Pentadactyla, figured in a former number of this work, that it has been regarded by some Naturalists as a variety rather than a distinct species; and Linnæus in his *Systema Naturæ*, after giving its specific character, observes that it is almost too nearly allied to the other to be regarded as distinct. The length of the tail however, which in all the specimens I have ever observed, very greatly exceeds the proportion of the same part in the former species, as well as the more oblong, and even acuminate form of the furrowed or striated scales, together with a greater degree of slenderness in the

the

the body, and some other particulars which an attentive survey discovers, seem clearly to prove a real specific difference. In point of general habits and mode of life nothing need be added to what has been already said of the other species, or *M. Pentadactyla*, to which the reader is therefore referred for its history.

FULGORA LANTERNARIA.



CHARACTER GENERICUS.

Caput fronte producta, inani.

Antennæ infra oculos: articulis 2; exteriore globoso majore.

Rostrum inflexum.

Pedes gressorii.

Lin. Syst. Nat. p. 703.

CHARACTER SPECIFICUS, &c.

FULGORA fronte ovali recta, alis lividis; posticis ocellatis.

Lin. Syst. Nat. p. 703.

LANTERNARIA.

Mex. Sur. t. 49.

Rösel. Inf. 2. gryll. t. 28, 29.

Fabr. Spec. Inf. vol. 2. p. 313.

Vix aliud in Insectis videtur mirabilius luce illa phosphorea, quam certæ species emittunt. Inter insecta Europæa, Lampyrides, (quæ ad *Coleoptera* Linnæi referuntur) maxime hac qualitate pollent. In America est species *Elateris*, cui multa inest vis lucem in tenebris spargendi. *Scolopendra* etiam vulgaris Europæa, (quæ *Scolopendra electrica* Linnæi) manifeste noctu
luet,

lucet, præsertim si aliquo modo sit irritata aut compressa. Præ cæteris tamen insectis eminet species in tabula depicta, quæ communiter Lanternaria Peruviana dicitur: lucem enim adeo vividam spargit, ut viatores noctu ambulantes iter suum commode peragere possint, ope unius vel duorum horum animalium, baculo alligatorum, gestatorumque more facis. Insectum hoc ad ordinem naturalem pertinet insectorum quatuor alas habentium, quarum exteriores sunt magis coriaceæ seu densæ in parte superiore quam inferiore. Hujus ordinis insecta *Hemiptera* Linnæi constituunt, inter quæ major pars rostrum tubulatum sub pectore gerunt, cujus ope sugendo se nutriunt. Hinc patet Fulgoram et Cicadam esse valde affines. Fulgora frequens in America calidiori reperitur, et a Domina Merian in historia sua insectorum Surinamensium nec non ab aliis Naturæ indagatoribus descripta est. Non injucunde narrat Merian metum sibi ingentem incussisse flammeas coruscationes ab insectis hisce exortas, cum adhuc facultatis quam habent lucem in tenebris emittendi ignara esset. “Cum aliquando (inquit illa) Lanternarios magna copia mihi attulissent Indi, scatulæ eosdem majori lignæ inclusi, illos noctu lucere adhuc inscia; verum de nocte insolito strepitu expergefacta, et perterrita, e lecto profiliens, lumen accendere jussi, quis domi meæ insuetus esset strepitus ignara. Tum vero e scatula stridorem profectum illico nobis patuit; illam itaque cum animi quadam perturbatione aperuimus, sed adapertam magis adhuc paventes in terram subito dejecimus, quod inter aperiendum inde velut ignea erumperet flamma, toties refulgens quoties novum
evolaret

evolaret insectum: quo tandem animadverso, ad nos redeunt, iterum congregavimus animalcula, splendorem in ipsis plurimum demiratae.” Ope etiam unius insecti, ut affirmat Merian commode aliquis noctu legere potest.

Non abs re fit addere quod quamvis Domina Merian figuras horum animalium pulchre et accurate depingi curaverit, tamen transformationem ipsius insecti a larva ad integrum statum describere conata, figuram, ut videtur, fictam introduxit, nempe cicadæ speciem (quæ Cicada Tibicen Linnæi) cum capite Fulgoræ.

Lux phosphorea a Fulgora dimanans, a capite concavo seu velut inflato procedit: nulla enim alia pars phosphorea est.

THE
GREAT LANTHORN-FLY,
OR
FIRE-FLY.



GENERIC CHARACTER.

Head hollow, inflated, and produced forwards.

Antennæ below the eyes, consisting of 2 joints,
the exterior larger and globose.

Beak inflected.

Feet formed for walking.

SPECIFIC CHARACTER, &c.

FULGORA with large oval head; variegated
wings; the lower pair ocellated.

LANTERNARIA.

Merian. Sur. t. 49.

Rösel. vol. 2. t. 28, 29.

Few circumstances are more remarkable amongst insects than the phosphoric light with which some particular species abound. Amongst the European insects this quality is most conspicuous in the Glow-Worms, which are of the Linnæan genus *Lampyris*, and belong to the Coleopterous tribe. In America a large species of *Elater*, or Springing-Beetle is possessed of this faculty
in



London, Published, July 1st 1790 by F. R. Nodder & Co. N^o. 10. Ranton Street.

in a very high degree ; the common small Scolopendra of Europe, and which is well known in our own country, is pretty strongly phosphoric likewise, especially if pressed or irritated ; but of all insects that which is here represented, and which is generally called the Lanthorn-Fly of Peru, possesses this lucid quality in the most eminent degree, and affords a light so vivid, that travellers walking by night are said to be enabled to pursue their journey with sufficient certainty by one or two of these insects tied to a stick and carried in the manner of a torch. The insect belongs to the natural order of Hemipterous insects, or such as are furnished with four wings, of which the exterior pair on the upper part are of a stronger or more coriaceous nature than on the lower. The division in this tribe to which it strictly belongs, is that containing the rostrated insects, or such as have a tube or instrument of suction lying flat, beneath the breast. It is therefore extremely nearly allied to the genus Cicada. It is common in many parts of South America, and amongst other writers is described by the celebrated Madam Merian in her history of the Surinam insects. She gives an entertaining account of the alarm into which she was thrown by the flashing which proceeded from them in the dark, before she had been apprized of their shining nature.

“ The Indians once brought me (says she) before I knew that they shone by night, a number of these Lanthorn-Flies, which I shut up in a large wooden box. In the night they made such a noise that I awoke in a fright, and ordered a light to be brought, not being able to guess from whence the noise proceeded :

as soon as we found that it came from the box, we opened it, but were alarmed still much more, and let it fall to the ground in a fright at seeing a flame of fire come out of it; and as many animals as came out, so many flames of fire appeared. When we found this to be the case, we recovered from our fright, and again collected the insects, much admiring their splendid appearance." She adds, that the light of one of these insects is so vivid that a person may see to read a newspaper by it.

It may not be improper to observe, that though Madam Merian has given good figures of the Fire-Fly, yet, by way of explaining the change from its supposed larva into the complete insect, she seems to have introduced an imaginary figure, representing the Cicada Tibicen with the head of a Fulgora. The light emitted by the Fire-Fly proceeds entirely from the hollow part, or Lantern of the head; no other part of the animal being luminous.

INDEX.

PLATE 26. 27. **A**CTINIA Anemone.

- 13. Alcedo cristata.
- 32. Anas occidua.
- 5. Anguis Scytale.
- 12. Aranea avicularia.
- 24. Boa canina.
- 6. Bradypus tridactylus.
- 19. Certhia formosa.
- 8. Draco volans.
- 37. Fulgora Lanternaria.
- 14. Gorgonia Flabellum.
- 30. Helix hortensis.
- 20. Hydra viridis.
- 21. Lacerta Monitor.
- 29. Lemur tardigradus.
- 33. Macropus giganteus.
- 11. Manis pentadactyla.
- 36. Manis tetradactyla.
- 10. Motacilla superba.
- 3. Moschus pygmaeus.
- 23. Ophrys apifera.
- 28. Papilio Polymnestor.
- 15. Papilio Priamus.
- 2. Phalæna Atlas.
- 7. Psittacus Porphyrio.
- 1. Psittacus porphyrocephalus.
- 16. Psittacus porphyrrurus.
- 35. Psittacus pullarius.
- 17. Rana Pipa.
- 34. Scarabæus Hercules.
- 9. Scolopendra morsitans.
- 18. Sphinx ocellata.
- 25. Strix nebulosa.
- 22. Strix pulchella.
- 31. Sparus ? formosus.
- 4. Tanagra Tatao.

INDEX.

PLATE 26. 27. **A**CTINIA Anemone.

- 34. Beetle Hercules.
- 28. Butterfly Polymnestor.
- 15. Butterfly Imperial Trojan
- 19. Creeper shining
- 32. Duck Western
- 8. Dragon flying
- 37. Fire-fly.
- 14. Gorgonia Fan.
- 33. Kangaroo great
- 13. King-fisher crested
- 29. Lemur slow-paced
- 21. Lizard monitory.
- 11. Manis five-toed
- 36. Manis four-toed
- 2. Moth Atlas
- 3. Musk pygmy
- 23. Orchis Bee
- 25. Owl clouded
- 22. Owl least horned
- 1. Parrot purple-headed
- 7. Parrot violet-blue
- 16. Parrot purple-tailed
- 35. Parrot Guinea
- 20. Polype green
- 6. Sloth three-toed
- 30. Snail garden
- 12. Spider bird-catching
- 18. Sphinx ocellated
- 31. Sparus ? beautiful
- 5. Snake painted
- 24. Snake dog-headed
- 9. Scolopendra great
- 4. Tanagra Paradise
- 17. Toad Surinam
- 10. Warbler superb

INDEX

1	1. The first part of the book is devoted to a general description of the country and its inhabitants.
2	2. The second part of the book is devoted to a description of the climate and the seasons.
3	3. The third part of the book is devoted to a description of the soil and the productions of the country.
4	4. The fourth part of the book is devoted to a description of the manners and customs of the inhabitants.
5	5. The fifth part of the book is devoted to a description of the government and the laws of the country.
6	6. The sixth part of the book is devoted to a description of the commerce and the trade of the country.
7	7. The seventh part of the book is devoted to a description of the military and naval strength of the country.
8	8. The eighth part of the book is devoted to a description of the religion and the superstitions of the inhabitants.
9	9. The ninth part of the book is devoted to a description of the education and the sciences of the country.
10	10. The tenth part of the book is devoted to a description of the arts and the manufactures of the country.
11	11. The eleventh part of the book is devoted to a description of the history and the events of the country.
12	12. The twelfth part of the book is devoted to a description of the present state and the prospects of the country.
13	13. The thirteenth part of the book is devoted to a description of the natural history and the minerals of the country.
14	14. The fourteenth part of the book is devoted to a description of the animals and the plants of the country.
15	15. The fifteenth part of the book is devoted to a description of the diseases and the medical practice of the country.
16	16. The sixteenth part of the book is devoted to a description of the laws and the constitution of the country.
17	17. The seventeenth part of the book is devoted to a description of the manners and customs of the country.
18	18. The eighteenth part of the book is devoted to a description of the government and the laws of the country.
19	19. The nineteenth part of the book is devoted to a description of the commerce and the trade of the country.
20	20. The twentieth part of the book is devoted to a description of the military and naval strength of the country.
21	21. The twenty-first part of the book is devoted to a description of the religion and the superstitions of the inhabitants.
22	22. The twenty-second part of the book is devoted to a description of the education and the sciences of the country.
23	23. The twenty-third part of the book is devoted to a description of the arts and the manufactures of the country.
24	24. The twenty-fourth part of the book is devoted to a description of the history and the events of the country.
25	25. The twenty-fifth part of the book is devoted to a description of the present state and the prospects of the country.
26	26. The twenty-sixth part of the book is devoted to a description of the natural history and the minerals of the country.
27	27. The twenty-seventh part of the book is devoted to a description of the animals and the plants of the country.
28	28. The twenty-eighth part of the book is devoted to a description of the diseases and the medical practice of the country.
29	29. The twenty-ninth part of the book is devoted to a description of the laws and the constitution of the country.
30	30. The thirtieth part of the book is devoted to a description of the manners and customs of the country.
31	31. The thirty-first part of the book is devoted to a description of the government and the laws of the country.
32	32. The thirty-second part of the book is devoted to a description of the commerce and the trade of the country.
33	33. The thirty-third part of the book is devoted to a description of the military and naval strength of the country.
34	34. The thirty-fourth part of the book is devoted to a description of the religion and the superstitions of the inhabitants.
35	35. The thirty-fifth part of the book is devoted to a description of the education and the sciences of the country.
36	36. The thirty-sixth part of the book is devoted to a description of the arts and the manufactures of the country.
37	37. The thirty-seventh part of the book is devoted to a description of the history and the events of the country.
38	38. The thirty-eighth part of the book is devoted to a description of the present state and the prospects of the country.
39	39. The thirty-ninth part of the book is devoted to a description of the natural history and the minerals of the country.
40	40. The fortieth part of the book is devoted to a description of the animals and the plants of the country.
41	41. The forty-first part of the book is devoted to a description of the diseases and the medical practice of the country.
42	42. The forty-second part of the book is devoted to a description of the laws and the constitution of the country.
43	43. The forty-third part of the book is devoted to a description of the manners and customs of the country.
44	44. The forty-fourth part of the book is devoted to a description of the government and the laws of the country.
45	45. The forty-fifth part of the book is devoted to a description of the commerce and the trade of the country.
46	46. The forty-sixth part of the book is devoted to a description of the military and naval strength of the country.
47	47. The forty-seventh part of the book is devoted to a description of the religion and the superstitions of the inhabitants.
48	48. The forty-eighth part of the book is devoted to a description of the education and the sciences of the country.
49	49. The forty-ninth part of the book is devoted to a description of the arts and the manufactures of the country.
50	50. The fiftieth part of the book is devoted to a description of the history and the events of the country.

VIRO ORNATISSIMO
JOSEPHO BANKS,
BARONETTO,
REGIÆ SOCIETATIS LONDINENSIS
EXIMIO PRÆSIDI:
PEREGRINATORI CELEBERRIMO,
INGENII ACUMINE, LABORUM PATIENTIA,
PHYSICIS
PER OMNE ÆVUM COMMENDATISSIMO,
SECUNDUM HUNC
NATURÆ VIVARII
FASCICULUM,
D. D. D.

GEORGIUS SHAW,

FREDERICUS P. NODDER.

TO
SIR JOSEPH BANKS,
BARONET,
PRESIDENT OF THE
ROYAL SOCIETY
OF LONDON:

TO WHOSE UNWEARIED LABOURS,
ENLARGED KNOWLEDGE,
AND LIBERAL PATRONAGE,
THE SCIENCE OF NATURAL HISTORY
IS SO HIGHLY INDEBTED,
THIS SECOND VOLUME OF THE
NATURALIST'S MISCELLANY,
IS RESPECTFULLY INSCRIBED

BY
GEORGE SHAW,
FREDERICK P. NODDER.

MUS SALIENS.



CHARACTER GENERICUS.

Dentes primores inferiores subulati.

Lin. Syst. Nat. p. 79.

CHARACTER SPECIFICUS, &c.

MUS cauda elongata floccosa, femoribus longissimis, digito utrinque spurio ad pedes posticos.

CUNICULUS pumilio saliens, cauda anomala longissima.

Briffon Quadr. 103.

JERBOA.

Shaw Itin. 248.

Mira pedum anticorum et posteriorum inæqualitate distinguitur Jerboa: antici enim ita breves sunt ut ad progrediendum minime valeant, postici autem totius corporis longitudini pares sunt. Hinc fit ut pedibus solummodo posterioribus stet et quiescat, anticosque ad nullum alium usum convertat, quam ad attrahendum cibum, culmos nempe cum spicis tritici, aliasque plantas; aut ad fodiendum cubile subterraneum. Plerumque more avis incedit, erecta scilicet cruribus, quæ pilis rarissimis vestiuntur, aviumque cruribus sunt

valde similia. Cauda illi prælonga est, apice fasciculato.

Tres vel quatuor exstant Jerboæ species, vel saltem constantes, ut dicuntur, varietates, quæque in PENNANTII Historia Quadrupedum, genus distinctum constituent; quas vero LINNÆUS, sub genere *Muris* ordinat.

Pernicissimæ velocitatis sunt Jerboæ, et ab hoste saltibus continuatis longissimis adeo rapide aufugiunt, ut equo generoso vectus aliquis vix ægreque illas assequi possit. Frigoris sunt impatientes, et tempore brumali in domunculis subterraneis sepultæ obdormiunt. Frugibus vescuntur. In hoc potissimum differt species de qua jam agitur a communi specie, (quæ *Mus Jaculus* LINNÆI) quod crura paulo supra pedes digito utrinque spurio, longo, velut calcari armantur. Non tantum calidas regiones, Syriam nempe et Barbariam, sed et Sibiriaë partes orientales, idque frequenter, incolit Jerboa. Moles illi est quasi magni foricis.



N

London Published Aug. 25. 1790 by F. P. Nodds & Co. No. 15 Broad Street.

THE SIBIRIAN JERBOA.



GENERIC CHARACTER.

Two long cutting teeth in each jaw.

Fore Legs very short: *hind legs* very long.

SPECIFIC CHARACTER, &c.

JERBOA with a pair of spurious toes on each hind foot.

SIBIRIAN JERBOA.

Pennant Quadr. p. 429.

The Jerboa is remarkable for the strange disproportion between the length of the fore legs and the hind ones; the former being so very short as to be of no use to the animal in walking, while the latter are so long as to equal the whole body. In consequence of this peculiar formation, the creature stands and rests on its hind legs only, and makes no other use of the fore legs than to hold its food, and draw down the stems of wheat and other vegetables on which it feeds, and to scratch the ground in order to form its burrows. It has the general actions and attitudes of a bird, and the legs are covered thinly with short hair, and very much resemble those of birds. The tail is very long and terminates in a tuft.

There are three or four distinct species, or at least permanent varieties of Jerboa, and in the History of Quadrupeds of MR. PENNANT they constitute a particular genus; but LINNÆUS places them as species of the genus *Mus*.

The Jerboas are animals of the most surprizing swift-ness, and on the approach of danger immediately spring forward by successive leaps, so very nimbly, that it is said to be very difficult for a man well mounted to overtake them. They are impatient of cold, and remain during the winter in a dormant state in their burrows. They feed on vegetables. The particular species here represented differs principally from the common Jerboa or *Mus Jaculus* of LINNÆUS in having the legs furnished at a little distance above the feet with a pair of spurious toes or spurs. It is found not only in the warmer regions of Barbary and Syria, but in the Eastern part of Siberia in considerable plenty. It is about the size of a large rat.

It is a native of North America, and is principally found in the swampy parts of Carolina, from whence it was introduced into this kingdom about twenty-five years ago, and was described by the late MR. ELLIS by the title of *Dionæa Muscipula*.

What particular purpose in the Oeconomy of Nature is answered by the imprisoning power of this extraordinary vegetable, it is extremely difficult, and perhaps impossible to determine.

The general size of the plant is as represented in the plate, but I have seen the stem much taller than in the specimen here figured. The number of stamina is not always constant.

PENNATULA PHOSPHOREA.



CHARACTER GENERICUS.

Flores Hydræ, ad marginem denticulatum pinnarum.

Stirps libera, subulata, apice pinnata.

Lin. Syst. Nat. p. 1321.

CHARACTER SPECIFICUS, &c.

PENNATULA stirpe carnosa, rachi scabra, pinnis imbricatis.

Lin. Syst. Nat. p. 1322.

PENNATULA PHOSPHOREA.

Ellis Aët. Angl. v. 53. t. 19. f. 1—5.

PENNA MARINA.

Baubin Hist. 3. p. 802.

Pennatulæ genus constituunt Zoophytorum moventium, more piscis natantium. Formæ sunt plerumque perelegantis. Species quam descripsimus est fortasse vulgatissima. Circa littora Britanniae frequens reperitur, et non raro adhæret piscatorum lineis. Animal constat corpore, seu velut stipite paulum complanato, et inde in ramos laterales numerosos expanso, quorum parietes interni in tubulos multos dividuntur, e quorum apicibus totidem prodeunt velut hydrarum,

hydrarum, seu polyporum capitula, cum suis tentaculis. Totum igitur animal videtur esse hydra ramosa et valde composita, cujus corpus in stipite, seu parte nuda continetur, atque in numerosissimos ramulos utrinque continuatur, singulo ramulo peculiari suo capite instructo.

Mirum hoc animal lucem adeo phosphoream emittit, ut piscatores pisces prope ludentes solo Pennatulæ lumine distincte perspicere possint. Color ejus vivide ruber est, et communis magnitudo ut repræsentat tabula.

a. Ramulus microscopio auctus.



a

THE
PHOSPHORIC PENNATULA,
OR
SEA-PEN.



GENERIC CHARACTER.

Animal free, or locomotive.

Body (generally) expanding into processes on the upper part.

Processes or branches furnished with rows of tubular denticles.

Polype-head proceeding from each tube.

SPECIFIC CHARACTER, &c.

SEA-PEN with fleshy stem, middle part rough, pinnules imbricated.

BRITISH SEA-PEN.

Ellis Zooph. p. 61.

THE COMMON SEA-PEN.

The Pennatulæ or Sea-Pens form a genus of locomotive Zoophytes, and swim in the manner of a fish. They are in general of a very beautiful appearance. The species here exhibited is the most common: it is found in considerable plenty on the British coasts, and
is

is drawn up in numbers adhering to the baits of fishermen's lines. The animal consists of a somewhat flattened stem or body, which is furnished with an internal bone, and dilates into an expanded part consisting of a great many pinnæ or lateral branches, which are divided on their inner edges into a number of tubular processes, through each of which is protuded a part of the animal, resembling the head of a hydra or polype: the whole animal therefore may be considered as a very compound or ramified hydra or polype, the body of which is contained in the naked part or stem, and from thence ramifies into a vast number of processes, each furnished with its particular head.

This curious animal emits a very strong phosphoric light, and it is even so luminous that it is no uncommon circumstance for the fishermen to see the fish which happen to be swimming near it, merely by the light of the Pennatula. Its colour is a bright red or crimson, and the general size that of the figure.

a. One of the pinnæ magnified.

DIONÆA MUSCIPULA.



CHARACTER GENERICUS.

Perianthium pentaphyllum.

Corolla pentapetala.

Germen depressum, crenatum.

Stigma patens, fimbriatum.

Cl. Decandria Monogynia.

CHARACTER SPECIFICUS.

DIONÆA foliis ciliatis.

Carnivoro generi varia est acquirendæ prædæ ratio. Ab hoc nempe vi corripitur; ab illo venatione fatigatur: alterum venenum lethale morfu inflat, et id omne otiosum deglutit, cui aufugiendi potestatem ademerit: est etiam quod multiplici utitur dolo, incautaque animalia in casses suos illaqueat. Non tantum animalibus majoribus inest hæc prædandi cupido, sed et minimis; præcipueque insectis, quorum plurima interdum vel in suam speciem graviter sæviunt.

Quod vero dictu omnino mirum videatur, sunt etiam plantæ ad insectorum damnum et perniciem natæ, quæ vel a viscoso foliorum aut florum quibus incaute insident, humore implicantur, vel illius partis quam irritabilem nuncupant phyci, pressura includuntur. Ita se rem habere certissime demonstrat species illa Apocyni,
botanicis

botanicis nomine Apocyni androsæmifolii probe cognita: in cujus floribus antheræ quæ profundius intra corollam latent, adeo convergunt, ut sint quasi tegmen nectariis subjacentibus; quorum in medio manet gutta liquoris dulcis et mellei quo potissimum delectantur insecta. Antheræ levissimo tactu irritabiles, multo arctius inter se conveniunt; quo fit ut musca, seu aliud insectum floribus insidens, et proboscidem ad mel exugendum e fundo corollæ protendens, antheris irritatis et subito convergentibus irretiatur, misereque detenta pereat.

Est tamen multo mirabilius exemplum irritationis hujus vegetabilis in planta quæ in tabula depingitur. Cum enim foliorum superficies facillime exasperetur, et singulum folium ad margines serie spinularum seu vallorum cingatur, tactumque, subito in longitudinem arctissime convergat; necesse est ut quicquid insectum ibi malo fato advenerit, nisi ocissime aufugiat, non secus ac mus in muscipula capiatur; plerumque etiam firma et valida pressura occidatur. Irritabiliorem reddit hanc plantam plenus et meridianus solis calor.

America Septentrionali innascitur, in uliginosis Carolinæ locis præcipue reperta. In Angliam circiter viginti quinque abhinc annos illata est, et a celeberrimo ELLISIO nomine *Dionæ Muscipulæ* descripta.

Quo præcipue consilio insita sit illi mira hæc indoles quam jam tractavimus, philosophos omnes hætenus effugit, latebitque, ut credo, posteros.

Magnitudo ejus plerumque est ut in tabula depicta: nonnullas tamen ipse aliquando vidi quibus caulis multo procerior. Numerus staminum non semper certus est, et idem.



London, Published Aug^r 1st 1799 by F. P. Widdow & Co. N^o 15 Brown Street.

DIONÆA MUSCIPULA,

O R

VENUS's FLY-TRAP.



GENERIC CHARACTER.

Calyx five-leaved.

Corolla five-petaled.

Germen depressed and crenated.

Stigma spreading and fimbriated.

SPECIFIC CHARACTER.

DIONÆA with ciliated leaves.

Various are the methods by which animals of a carnivorous nature obtain their destined prey; some seizing the victim with resistless violence, or hunting it down till it is exhausted with fatigue, or inflicting a deadly poison by their bite, and thus securing it beyond all possibility of escape, and afterwards swallowing it at leisure: others exerting every artifice of insidious ingenuity, and entrapping the unwary animal into their snares. It is not only amongst creatures of the larger kind that this predacious disposition prevails, but even throughout many of the smallest tribes of nature; and particularly amongst insects, of which several kinds might be adduced which occasionally prey even on their own species.

What

What is still more extraordinary, there are not wanting amongst vegetables some instances, in which the smaller animals meet their fate by alighting on the flowers or leaves; being either held fast by a viscous exudation from the surface, or confined by the pressure of the irritable parts of the plant. One of the most curious instances of this kind is in a species of *Apocynum*, well known to Botanists by the name of *Apocynum androsæmifolium*. In the flowers of this plant the antheræ, which are situated pretty deep in the flower, converge, so as to form a shelter for the nectaria lying below them, and in the centre of which is contained a small quantity of that sweet juice so peculiarly attractive to insects. The antheræ are possessed of a very great degree of irritability, and suddenly converge much closer on being touched; when therefore a fly, or other small insect alights on the flower and inserts its proboscis into the centre, it is suddenly caught by the converging antheræ, and detained in this miserable situation till it perishes.

But a still more wonderful example of vegetable irritability occurs in the plant represented on the annexed plate. In this plant the surface of the leaves is irritable in the highest degree, and each leaf being furnished round the edge with a series of spiny processes, and converging longitudinally when irritated, with a very considerable degree of pressure, it follows that whatever insect is so unfortunate as to alight on the leaf, is, (unless it be extremely nimble) caught as effectually as a mouse in a trap, and is even generally squeezed to death by the pressure. The plant is most irritable during the warm part of the day, and in full sunshine.

It

BUCEROS RHINOCEROS.



CHARACTER GENERICUS.

Rostrum convexum, curvatum, cultratum, magnum, extrorsum ferratum; Frontis calvaria nuda, osseo-gibbosa.

Nares pone rostri basin.

Lingua acuta, brevis.

Pedes gressorii.

Lin. Syst. Nat. p. 153.

CHARACTER SPECIFICUS, &c.

BUCEROS cornu mandibulari frontis recurvato.

Lin. Syst. Nat. p. 153.

HYDROCORAX INDICUS.

Briss. Av. 4. p. 571.

Genus Buceros ab aliis omnibus avibus facillime dignoscitur ob rostrum ingens et immodicum; primo sane intuitu, deformitati potius fortuitæ et enormi, quam constanti perfectoque Naturæ artificio similis. Cuinam commodo inserviat rostrum hoc inusitatum difficile est dicere; nec de hac re aliquid conjicere possum præter quod jampridem observarunt plurimi physici; posse nempe illud ea de causa dari, ut contra

R

hostes

hostes potentiores, siquando cum illis confligitur, melius decertetur.

In plerisque hujus generis speciebus pars illa superioris maxillæ quæ prominet, recta est: at in specie de qua jam loquimur, recurvatur; unde et ipsa avis nomine *Rhinocerotis* distinguitur. Indiam incolit Orientalem, et in insula Java, nec non in Sumatra, in insulis etiam Philippenfis frequenter conspicitur. Carnes putridas fertur comedere, visceraque animalium incredibili lætitia deglutire.

Magnitudine Meleagridi Gallopavoni LINNÆI non longe est inferior. Colores sunt albi nigrique, ut representat tabula. Rostrum uncias decem est longum; cornuque seu processum super mandibulam superiorem gerit incurvatum, linea longitudinali nigra notatum. Mandibula superior ad basin rubra est, indeque ad apicem albo-flavescens: inferior pallida est, basi nigra.



THE
GREAT HORNBILL,
OR
RHINOCEROS-BIRD.



GENERIC CHARACTER.

Bill convex, large, and bent, with a protuberance on the upper mandible.

Nostrils small, and seated behind the base of the bill.

Tongue small? sharp?

Feet formed for walking, *viz.* three toes forward, one backward.

SPECIFIC CHARACTER, &c.

BUCEROS with a recurved mandibular horn.

HORNED INDIAN RAVEN, or RHINOCEROS-BIRD.

Will. Ornithol. p. 127.

The genus to which this bird belongs, is above all others distinguished by the extraordinary structure of the beak, which at first view has rather the appearance of some enormous deformity, or irregular monstrosity, than of a natural production. What is the intent of
Nature

plenum, et perfectum; larvæ quippe solummodo in Europam advehi solitæ sunt, in queis alarum, ut jam diximus, rudimenta vix ac ne vix conspici possunt. Istiusmodi larva communiter *bacilli ambulantis* nomine cognoscitur.

Singulare aliquid huic insecto est, quodque perpaucis aliis sui generis contingit, alas nempe non tantum thecis externis, sed et elytris quasi secundariis muniri, quæ tamen connexa videntur, quæque ipsas fortasse alas ab injuriis securiores reddant.

Mirum et rarum hoc insectum Insulam Amboynam inhabitat; ipsumque specimen unde depingitur hæc nostra figura, in Musæo Leveriano tam belle exsiccatum, ut nihil sit perfectius, asservatur.



THE GREAT MANTIS.



GENERIC CHARACTER.

Head unsteady : Mouth armed with jaws, and furnished with palpi.

Antennæ setaceous.

Wings four, membranaceous, convoluted : the lower ones plicated.

Feet anterior compressed, ferrated beneath, armed with a solitary claw and lateral jointed processes ; *posterior* four, smooth, formed for walking.

Thorax linear, elongated, and narrowed.

SPECIFIC CHARACTER.

MANTIS with roundish rough thorax, very short elytra, and spiny feet.

Imagination can hardly figure to itself a creature of a more singular appearance than this insect; and had we only received the accounts of authors, without having seen the animal itself, we might be inclined to question the truth of its existence. In insects of this tribe the animal in its incomplete state, or that which is analogous to the caterpillar-state in the butterfly-tribe, differs not much from the appearance of the insect

fect in its complete form, except in not being furnished with wings.

This creature is very rarely met with in collections in its complete or winged form; being generally seen in the less advanced growth before-mentioned, in which the rudiments of the wings are but just visible. In that imperfect state it has commonly been described under the title of the walking stick.

A most singular circumstance in this insect, (and which takes place in but very few others of the genus) is, that, exclusive of the elytra, or wing cases, there is an additional pair, which may be supposed to serve as a farther guard in securing the wings themselves: this secondary pair however seem to be connate with the wings themselves, so as to make a part of them.

This most curious and uncommon insect is a native of the Island of Amboyna, and the specimen from which the figure was taken, is now in the highest preservation in the Leverian Museum.

ACARUS AUTUMNALIS.



CHARACTER GENERICUS.

Pedes octo.

Oculi duo, ad latera capitis.

Tentacula duo, articulata, pediformia.

Lin. Syst. Nat. p. 1022.

CHARACTER SPECIFICUS.

ACARUS globoso-ovatus ruber, abdomine postice fetoso.

Omnibus fere nimis notum est molestissimum hoc animalculum, mensibus præcipue Augusti et Septembris. Acaro vulgari multo minus est, cutique affixum unguibus, præsertim tentaculis duobus brevibus supra pedes anteriores sitis, visu difficillimum est, nec sine laceratione avelli potest. Quamvis celeriter currat acarus autumnalis, tardior tamen est multis ejusdem generis. Cuicunque corporis parti se affixerit, exoritur ibi tumor magnitudine pisi, cum summa prurigine.

Color huic animalculo est vivide ruber, et opè microscopii, pars corporis posterior fetis rigidis albisque vestiri videtur. Rostrum, quod interdum visibile est, sæpius intra thecam reconditum, tubulatum est. A summo capite prodeunt parvula duo spicula, utrinque extrorsum spectantia. Discurrunt hæc insecta super

S

vegetabilia,

vegetabilia, præcipueque sentiuntur ab illis qui inter gramina et segetes ambulaverint.

Narrat Dominus WHITE in historia sua de Selborne in agro Hamptonienſi, cretaceas ibi regiones illis adeo infeſtari, ut cuniculariorum retia rubro colore tingantur, ipſique homines morſu immodico irritati, non raro febricitent.

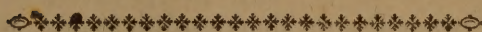
De hac acari ſpecie ſilent LINNÆUS et FABRICIUS: curſim et obiter deſcribitur in BAKERI libro ſecundo de microſcopiis qui et figuram addidit; quæ cum ab exſiccato infeſto delineata ſit, veram ſimilitudinem vix ſatis exprimit.

Qui ipſiſſimum animalculum commodiſſime ſpectare velit, duobus vitri fruſtulis leviter interpoſitum in microſcopio examinet. Hoc modo membra omnia facillime explicabuntur, ſine laceratione aut injuria.



London, Published Sept: 1776 by T. B. Nodder & Co. No. 155. Piccadilly Street.

THE
AUTUMNAL ACARUS,
OR
HARVEST-BUG.



GENERIC CHARACTER.

Eight *Legs*.

Two *Eyes*, situated on the sides of the head.

Two *Tentacula*, jointed, and shaped like feet.

SPECIFIC CHARACTER.

RED GLOBOSE-OVATE ACARUS, with the
abdomen bristly behind.

This troublesome insect will make itself sufficiently known to most people during the months of August and September: it is much smaller than a common mite, and can but just be perceived upon the skin, to which it adheres by its claws, and particularly by the two short arms or tentacula situated above the upper legs.

It can scarcely be separated from the skin without violence, when once it has fixed itself: its motion when disengaged is considerably quick, though by no means equal to that of some other species of acari. On the part where it fixes, it causes a tumor, generally about the size of a pea; sometimes much larger, accompanied with a severe itching.

The

The colour of this diminutive insect is a bright red ; and when microscopically examined, the lower part of the body appears to be coated with stiff white bristles. It seems to be provided with a tubular snout, which is generally concealed or sheathed, but which may sometimes be distinctly seen. On the top of the head are two little processes or sharp implements which turn outwards each way. These insects abound on vegetables, and are generally contracted by walking in gardens, amongst long grass, or corn fields.

According to MR. WHITE in his History of Selborne, they abound to an uncommon degree in the chalky districts of that part of Hampshire. He relates that he has been assured that the warreners in the chalky downs, are so much infested by them, and that they swarm to so infinite a degree as to discolour their nets, and give them a reddish cast, whilst the men are so bitten as to be thrown into fevers. Vid. Hist. Selb. p. 89.

It is a species which seem to have escaped the notice of systematic Naturalists ; and is not to be found either in LINNÆUS or FABRICIUS. A slight general description of it is given in BAKER'S Employment for the Microscope, accompanied by a figure ; but as the figure was evidently taken from a dried specimen, it gives but a very imperfect idea of the animal.

The only way of viewing it to advantage is to place it on a piece of glass and to lay another piece of glass immediately upon it, by which means it will be just so much compressed as to expand all its limbs without being injured ; in this situation it may be viewed, especially by a compound microscope, to the greatest possible advantage.

PICUS MINIMUS.



CHARACTER GENERICUS.

Rostrum polyedrum, rectum: apice cuneato.

Nares pennis setaceis recumbentibus obiectæ.

Lingua teres, lumbriciformis, longissima, mucronata, apice retrorsum aculeata setis.

Pedes scanforii.

Lin. Syst. Nat. p. 173.

CHARACTER SPECIFICUS.

PICUS griseus, vertice coccineo, occipite nigro albo punctato.

Species Picorum plurimæ exstant; sed omnium specierum hactenus cognitarum hæc facile minima. Tabula sistit aviculam magnitudine naturali. Cayanam in America Australi incolit.

THE LEAST WOODPECKER.



GENERIC CHARACTER.

Bill angular, strait, cuneated at the tip.

Nostrils covered with reflected bristly feathers.

Tongue cylindric, worm-shaped, very long, sharp-pointed, and (generally) aculeated at the tip with reflex bristles.

Feet formed for climbing, viz. two toes forward and two backward.

Lin. Syst. Nat.

SPECIFIC CHARACTER, &c.

CHESNUT-GREY WOODPECKER, with the top of the head crimson, and the back part black speckled with white.

Le tres petit PIC DE CAYENNE.

Buff. Ois. 7. p. 37.

MINUTE WOODPECKER.

Lath Synops. vol. 1. p. 596.

The species of Woodpeckers are very numerous ; and of all the species yet discovered, this is by far the least. The plate represents it in its natural size. It is a native of Cayenne in South America.



J.W.

London, Published Oct. 1st 1790

by T. De Volder & Co. 1.25. Buxton Street.

LACERTA SALAMANDRA.



CHARACTER GENERICUS.

Corpus tetrapodum, ecaudatum, nudum.

Lin. Syst. Nat. p. 359.

CHARACTER SPECIFICUS, &c.

LACERTA cauda tereti brevi, pedibus muticis,
palmis tetradactylis, corpore poroso nudo.

Lin. Syst. Nat. p. 371.

SALAMANDRA.

Gesn. Quadr. 80.

SALAMANDRA TERRESTRIS.

Ray Quadr. 273.

Novum omne et inauditum avida semper aure bibit
gens humana. Quasi vero ipsa Natura sua non mille
habeat miracula, nunquam defuere qui de monstris et
prodigiis, reliquaque infani capitis farragine lubentif-
sime scripserint.

Istiusmodi sunt dracones illi ingentes ab antiquis
descripti; nec non Lamia, fera nempe quæ corpus
Pantheræ squamis vestitum, cum capite et mammis
mulieris fortita est. Huc etiam referenda est Salaman-
dra, quam vulgus inepte putat in igne illæsam vivere.

Est profecto Salamandra parva lacertæ species, in
Germania,

Germania, aliisque Europæ regionibus minime rara; coloris nigri, apud latera ventremque maculis magnis longisque vivide flavis, five aureis decorati. Maculæ hæc interdum magnitudine et figura variant. Tegitur hæc lacerta meatibus, five foraminibus parvis, humorem quo plerumque madet animal, exudantibus. Hi meatus prope caput magis conspicui sunt quam in reliquo corpore. Cauda ad teretem accedit formam, et longitudine est mediocri, gradatim attenuata.

Hoc est illud animal de quo tot miræ et ridiculæ divulgatæ sunt fabulæ, quodque etiam nunc temporis a vulgo, peculiari quadam et ignota vi ignis ardorem repellere creditur. Est sane nihil aliud hæc vis antipyretica, quam *frigidi* animalis humida et naturalis temperies, cujus ope paulo longius ab ignis impetu manet inconsumptum, quam aliarum substantiarum major siccitas.

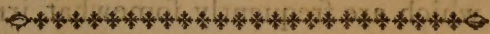
SALAMANDRA TERRESTRIS



S.N

London, Published Oct^r 1st 1790 by T. P. Nodden & Co. N^o 25 Brewer Street.

THE SALAMANDER.



GENERIC CHARACTER.

Body four-footed, tailed, naked.

SPECIFIC CHARACTER.

LIZARD with cylindric shortish tail and unarmed feet; the fore-feet divided into four toes, the body porous and naked.

There seems to prevail in the human mind an inherent propensity to the marvellous. Not contented with the variety of real miracles which Nature through all her kingdoms so liberally exhibits, the world has long been entertained with the histories of ideal wonders and imaginary monsters, which never existed but in the brains of their first describers.

Amongst beings of this class must be reckoned the large dragons described by the old writers; the Lamia, described as having the head and breasts of a woman, with a body like that of a panther, and covered with scales: to this order must also be referred the ideal Salamander of the vulgar; which is thought capable of living unhurt in the fire.

The real Salamander is nothing more than a smallish lizard, which is found very frequently in Germany,
and

valde similis, si non eadem, in India Orientali exstat.
Color his insectis est lucide fuscus, paululum nigrans ;
crura autem, cum corporis parte inferiore subalbicant.



London, Published Oct. 1st 1790 by T. P. Nodder & Co. No. 15. Brewer Street.

THE GREAT JÜLUS.



GENERIC CHARACTER.

Feet numerous: twice as many on each side as the segments of the body.

Antennæ moniliform.

Palpi (or feelers) two, jointed.

Body semicylindric.

SPECIFIC CHARACTER.

JÜLUS with about 134 feet on each side.

These insects are very nearly allied to the Scolopendræ or centipedes, but their body, instead of being flattened, as in those creatures, is nearly cylindrical; and every joint of the body is furnished on each side with two pair of feet; so that the number of feet on each side is double the number of joints, whereas in the Scolopendra they are equal.

These animals, when disturbed, roll themselves up in a flat spiral. Their mouth is armed with a very strong pair of jaws, with which they are capable of inflicting a severe bite: they are not however of a poisonous nature. The species here figured is the largest of the genus. It is found in America, where it inhabits

U

woods.

woods and retired places; and a species extremely re-
sembling it, if not in reality the same, is found in the
East-Indies. The colour of the insect is a blackish
brown, of a shining surface: the legs are whitish, as is
also the under part of the body.

STRIX NYCTEA.

VAR. STRIATA.



CHARACTER GENERICUS.

Rostrum aduncum (absque cera.)

Nares pennis fetaceis recumbentibus obtectæ.

Caput grande : auribus oculisque magnis.

Lingua bifida.

Lin. Syst. Nat. p. 131.

CHARACTER SPECIFICUS.

STRIX capite lævi, corpore albido maculis
lunatis distantibus fuscis.

Lin. Syst. Nat. p. 132.

Avis hæc inter varietates est rarissimas ac elegantissimas magnæ et nivæ strigis Americam simul ac Europam septentrionalem incolentis : plerumque est tota nivea, maculis aliquot lunatis fusco-nigricantibus interspersis : varietas autem de qua jam loquimur, est per totum fere corpus notis numerosissimis fuscis obducta, quæ versus collum sensim angustiores fiunt, et in breves et interruptas fascias concurrunt, quibus etiam tota avis subtus notata est : caput omnino albet ; ut et pedes, qui, ut in aliis omnibus hujus speciei ex-

emplis, ad ipsos ungues plumis velleri fimilibus den-
sissime vestiuntur: rostrum unguisque nigricant:
irides flavent.

Reptans aduncum (adipos. car.)
Nerv. pennis lateris reconditis oblecta.
Caput grande: auribus oculisque parvis.
Lingua bifida,

Lin. Sys. Nat. p. 131.

STRIX capite levi, corpore albo maculis
lunatis distinctis fuscis.

Lin. Sys. Nat. p. 131.

Avis haec inter varietates est, quibus ac elegan-
tissimas naves et naves singulis Americam simul ac
Europam septentrionem incolens: plerumque est
pennis nigris, maculis albis lunatis distinctis
interstitiis: varietas autem de qua jam loquimur
est per totam hanc Europam nostram, Asiam, Africa
obdura, quae vestitus collum, scapulas, angustioribus
et in hanc et interstitiis, naves exornant, quibus
etiam tota avis subitus naves est: caput ovale al-
bi et fuscis, post, ut in aliis omnibus huius speciei ex-
capite.



THE
SNOWY OWL.
A STRIPED VARIETY.



GENERIC CHARACTER.

Bill crooked (not furnished with a cere).
Nostrils covered with recumbent bristly feathers.
Head large : *Ears* and *Eyes* large.
Tongue bifid.

SPECIFIC CHARACTER, &c.

HORNLESS WHITE OWL, marked with
distant lunated spots.

SNOWY OWL.

Lath. 1. p. 132.

GREAT WHITE OWL.

Edwards 2. pl. 61.

The bird here figured is a most curious and beautiful variety of the great Snow-white Owl; a species which is a native both of the northern parts of Europe and of America, and in size is equal to the great Eagle-Owl. In its common or general state it is of a snowy whiteness, with here and there a few small scattered crescent-shaped spots of blackish brown; but the specimen now represented is spotted all over the upper surface with numerous marks of
brown,

brown, which as they approach the neck become narrower, and run into short interrupted fasciæ or bands, with which also the whole under surface of the bird is ornamented: the head is white; the feet also are perfectly white; and like all other individuals of this species, are most thickly coated with feathers to the very claws, so as to have the appearance of a very deep fur: the bill and claws are black: the irides yellow.

SIMIA SPHINX?



CHARACTER GENERICUS.

Dentes Primores utrinque quatuor, approximati.

Laniarii solitarii, longiores, hinc remoti.

Molares obtusi.

Lin. Syst. Nat. p. 34.

Cl. *Mammalia*.—Ord. *Primates*.

CHARACTER SPECIFICUS.

SIMIA SEMICAUDATA, ore vibrissato, unguibus acuminatis, natibus calvis?

Lin. Syst. Nat. p. 35.

Simiarum quæ communiter Papiones nominantur, duæ sunt species adeo inter se similes, ut revera licet diversæ, plerumque tamen ab auctoribus, qui suis oculis visas sibi invicem collatas non sedulo examina-verint, pro una eademque specie descriptæ sint : Simia nempe *Sphinx* et Simia *Maimon* LINNÆI.

Præcipue distinguuntur diversa magnitudine : Sphinge enim multo minor est Maimon : sed discrepat et vultus color : Sphinx enim nasum habet medium sanguinei ruboris, Maimon obscure tantum incarnatum. Sphingis etiam natibus multo vividior est

est rubor, regionique lumborum color omnino cæruleo-violaceus, qui in iisdem partibus alterius vix et ne vix conspici potest. Ad cætera vero adeo sunt affines hæ duæ species ut non mirum sit si incertum discrimen plurimos primo visu fefellerit.

Rarissimus est Simiæ Sphingis in Europa conspectus; Maimonis frequentior, et fere quotidianus. Utræque Africæ calidiores regiones inhabitant. Speciatim notandum est nomina et synonyma harum specierum scriptores communiter permiscuisse: LINNÆI enim Maimon multo melius cum hac nostra specie convenit quam cum illa quam ipse nomine Sphingis descripsit. Suspikor etiam (ut plane rem confitear,) hanc ipsam speciem hic depictam non esse Sphingem LINNÆI. Ad altitudinem quinque pedum et ultra crescit Sphinx; Maimon vix tres superat.

11

2



THE VARIEGATED BABOON.



GENERIC CHARACTER.

Front-Teeth in each jaw 4, placed near together.

Canine-Teeth solitary, longer than the others,
distant from the remaining teeth, or grinders.

Grinders obtuse.

SPECIFIC CHARACTER, &c.

SHORT-TAILED WHISKERED SIMIA,
bare behind, with pointed nails, and violet-
coloured loins.

GREAT BABOON.

Pennant Hist. Quadr. p. 173.

Amongst the species of Simiæ called Baboons there are two, which though really very distinct from each other, have yet so great a general resemblance, that some authors, not having had opportunities of examining and comparing both species, have confounded them with each other; these two animals are the Simia Sphinx and the Simia Maimon of LINNÆUS.

The most striking difference is in point of size; the Sphinx being by much the largest of the two; but there is also a considerable difference in the colour of
the

the face: the middle of the nose, which in the Maimon is merely of a dull flesh-colour, is in the Sphinx of a sanguine red: the hinder part of the Sphinx is also of a much more intense red than in the Maimon; and the skin round the region of the loins is tinged with a very strong and fine violet-colour, which is scarce, if at all perceptible in the Maimon. In other particulars, they so much agree that it is no wonder they should have been frequently mistaken for one and the same species.

The S. Sphinx is a much rarer animal than the Maimon, and indeed is but very seldom to be seen in Europe; whereas the Maimon is not uncommon in most exhibitions of animals. Both species are natives of the hotter parts of Africa. It should be particularly observed that a general confusion seems to take place in the descriptions and synonyms of authors relative to these two animals; for the description given by LINNÆUS of his S. Maimon agrees much better with our supposed Sphinx than with the species so named by LINNÆUS. I am even inclined to suspect after all, that the S. Sphinx of LINNÆUS cannot be the animal here represented. The Sphinx grows to the height of upwards of 5 feet: the Maimon rarely exceeds 2 or 3 at farthest.

PAPILIO MENELAUS.



CHARACTER GENERICUS.

Antennæ apicem versus crassiores, sæpius clavato-capitatae.

Alæ sedentis erectæ fursumque conniventes (*volatu* diurno).

Lin. Syst. Nat. p. 744.

CHARACTER SPECIFICUS, &c.

PAPILIO alis dentatis; supra cæruleis nitidissimis; subtus nebulosis, punctis fuscis.

Lin. Syst. Nat. p. 749.

Eq. Achivi.

Merian Surin. t. 53.

Cram. Inf. 2. t. 21.

Clerk. Icon. t. 21. f. 1.

En superbientis Naturæ miraculum! eximiæ venustatis insectum! vividos adeo colores sortitum, ut vix ulla arte ad vivum possint exprimi.

“Color alarum cæruleus paginæ superioris (inquit LINNÆUS) adeo politus nitidusque, ut vix simile in rerum Natura conspiciatur.” Mirificus hic paginæ superioris splendor a sobrio et modesto paginæ inferioris colore longissime distat; qui tamen ocellis ferrugineis margine nigro circumscriptis, pupillaque albicante

Y

gemmatus,

gemmatus, sui generis pulchritudinis exemplar non mediocre censetur.

Externa hæc et interna diversitas, (si causam liceat quærere) Papilionem ab avibus fortasse securiorem reddat, ut nempe ab hostibus minus facile discerni queat, dum alis clausis quiescit, quam cum alis expansis pleno splendore effulserit.

Americæ est incola, et ab eruca magna flavescente, spinis nigricantibus armata, originem ducit.



S

London. Published Novr. 1st 1790 by F. & C. Nodder & Co. No. 5 Brewer Street.

SILVER-BLUE BUTTERFLY.



GENERIC CHARACTER.

The *Antennæ* or *Horns* thickening towards the upper part, and generally terminating in a knob, or club-shaped tip.

The *Wings* (when sitting) erect, and meeting upwards. (*Flight* diurnal.)

SPECIFIC CHARACTER, &c.

BUTTERFLY with indented wings; the upper surface of a brilliant blue, the lower clouded-brown; and marked with large ocellated spots.

Mer. Surin. t. 53.

Cram. Inf. 2. t. 21.

Clerk. ic. t. 21. f. 1.

So uncommonly bright and brilliant is this superb insect, that it can but faintly be expressed by the utmost efforts of artificial colouring; and may serve as an instance, amongst many others, of the inimitable beauty which Nature alone can produce.

LINNÆUS

Color generalis huic avi niger est. Caput leviter cristatum plumis densissime vestitur, quarum extremitates maculis gilvis, ut plurimum scatere solent. Maculantur quoque humeri eodem modo, et in aliquibus speciminibus latera corporis femoraque fasciis gilvis anguste transverseque notantur. Rostrum maximum et validissimum cornei est coloris, seu obscure fusci. Crura pedesque crassa et robusta, rostroque fere concoloria. Caudæ imo colori, coccineo nempe, transverse superadditæ sunt fasciæ numerosæ nigerri-mæ; et utrinque prope rachin pennarum coccineus color fere in flavum languescit. Basin apicemque cauda penitus nigra est.

Tota avis tam magnificum ostendit aspectum ut inter principes sui generis merito numeretur. Specimina aliquando paululum variant: color scilicet caudæ coccineus non in fascias numerosas nigro distinctas disponitur, sed latam transversamque aream intemerati ruboris in medio exprimit.



T H E
MAGNIFICENT COCKATOO.



GENERIC CHARACTER.

Bill hooked. Upper mandible moveable.
Nostrils round, placed in the base of the bill.
Tongue fleshy, broad, blunt at the end.
Legs short. Toes formed for climbing, viz. two forward and two backward.

SPECIFIC CHARACTER, &c.

EVEN-TAILED BLACK PARROT, with the head somewhat crested, the front and shoulders spotted with buff, the middle of the tail red crossed with black bars.

THE BANKSIAN COCKATOO.

Latham's Synops. Suppl. p. 63.

New Holland, which may not unjustly lay claim to the more dignified title of the Southern Continent, may be considered as a kind of new world to the Naturalist; and has already afforded several animals unknown to every other part of the globe. To no other genus, however, have such large accessions of new species been added as to that of *Psittacus*; of which some of the most superb kinds appear to be natives of New Holland, and some of the Southern Islands.

Of these newly-discovered birds, one of the most august in its appearance is that represented on the plate annexed. In size it is equal to the great Maccaws already so well known to Naturalists; but it belongs to a different section in the genus, and instead of being furnished with a lanceolate tail, as in those birds, it has that part even at the end, or consisting of feathers of nearly equal length.

The general color of this bird is a deep black: the head is very full of feathers, and slightly crested, and is commonly marked in front with several buff-coloured spots, owing to the tips of the feathers on that part being of this colour. Several spots of buff are also scattered over the shoulders, and in some specimens the sides and thighs are slightly barred with narrow fasciæ of buff. The bill is of a deep brown, or horn-color, and is uncommonly large and strong. The legs and feet are thick and stout, and of nearly the same colour with the bill. The tail is most beautifully barred with deep scarlet and black; the first being the ground or predominant color, on which the latter is disposed in numerous fasciæ. Near the shafts of the feathers on each side, the scarlet gradually declines into yellow: at the base and tip the tail is wholly black.

The whole bird is of so superior a magnificence as justly to be regarded as one of the finest of its tribe. It is subject to some variation, and in some specimens the scarlet on the tail, instead of being barred with black, forms one large transverse band in the middle.

BOA CONSTRICTOR.



CHARACTER GENERICUS.

Scuta abdominalia.

Scuta subcaudalia (absque crepitaculo).

Lin. Syst. Nat. p. 373.

Cl. Amphibia. Ord. Serpentes.

CHARACTER SPECIFICUS.

BOA VARIEGATA, scutis abdominalibus 240,
subcaudalibus 60.

Qui vasta et mirabilia Naturæ opera nunquam *αυτοπ-
ται* contemplati sunt, ii sane quicquid varie de illis
scripserint peregrinatores, caute et dubitanter recipere
solent; immo sæpe utpote fabulosum omnino rejici-
unt. Inter hæc Naturæ magnalia jure numerandi
sunt serpentes illi ingentes, qui in nonnullis Indiæ,
Africæ, et Americæ regionibus inveniuntur; quique
in tantam magnitudinem adolescunt ut quadrupedia
etiam majora ingurgitare possint; et longitudine adeo
sunt enormi, ut sæpe pedes viginti, viginti-quinque,
vel etiam triginta superent. Horum temporis pro-
gressu multo rarior est conspectus, illosque probabile
est regiones olim sane desertas et nunc excultas, popu-
losque frequentes reliquisse, et in tesqua deserta et
remota

remota exulasse. Spectantur tamen aliquando, hortos et loca habitaculis suis propiora perreptantes.

Felix sane faustumque est humano generi mirandos hosce serpentes veneno prorsus carere ; ob molem tantum et robur timendos ; quibus sane adeo præpollent ut cervos aliosque majores quadrupedes, constringendo et amplexando enectos, lento haustu absorbeant : et dein usque ad stuporem et torporem satiati latent, detectique facile vel sclopetis, vel aliis modis confici possint.

Cum prægrandes hos serpentes quasi ad aliorum animalium perniciem natos contemplamur, horrescimus illos et aversemur necesse est ; si vero formam tantum et colores spectemus, non mediocrem illis inesse pulchritudinem lubentissime fatebimur. Color illis, uti et aliis hujus generis, diversus est pro varia ætate : ut plurimum tamen est cinereus, per dorsum et latera plagis maculisque oblongis, magnis, fusco-rubentibus, seu ferrugineis, margine nigro circumscriptis, et albo flavoque notatis variatus : venter plerumque flavescens albet.

Referunt historici totum Romanum exercitum, conspecto immodico serpente, (quem verisimile est ejusdem speciei fuisse cum illo qui in tabula depingitur), ingenti metu perculsum subito, et consternatum fuisse. Immanem hunc serpentem Valerius Maximus ex libro Livii historiæ deperdito his verbis memorat.

“ Quæ quia supra usitatam rationem excedentia attingimus, serpentis quoque a T. Livio curiose pariter ac facunde relata fiat mentio : Is enim ait in Africa apud Bagradam flumen tantæ magnitudinis anguem fuisse

fuisse ut Attilii Reguli exercitum usu amnis prohiberet; multisque militibus ingenti ore correptis, compluribus cauda voluminibus elisis, cum telorum jactu perforari nequiret, ad ultimum balistarum tormentis undique petitam, filicum crebris et ponderosis verberibus procubuisse; omnibusque et cohortibus legionibus ipsa Carthagine visam terribiliorem: atque etiam cruore suo gurgitibus imbutis, corporisque jacentis pestifero afflatu vicina regione polluta, Romana inde summovisse castra: dicit belluæ etiam corium cxx pedes longum in urbem missum." VAL. MAX.

Livium vero ipsum elegantibus supplementis æmulatus est Joannes Frienshemius; audiant igitur velim lectores Frienshemium miram rem suo more diserte recitantem.

"Interea M. Regulus proxima quæque subigendo in loca pervenerat per quæ flumen Bagrada labitur: ad quod castra habentes Romanos improvisa pestis et damno non mediocri, et terrore adhuc majore perculit. Magnitudinis enim portentosæ serpens aquatum profectos milites invasit; territisque et nequidquam repugnantibus multos ingentis oris hiatu forbuit: alios spirarum voluminibus et caudæ verbere obtrivit: nonnullos ipso pestilentis halitus adflatu exanimavit: tantumque negotii M. Regulo faceßere potuit, ut totis viribus cum eo de possessione amnis fuerit dimicandum. Quod ubi cum jactura militum fiebat, neque vinci aut vulnerari draco potuerat, durissima squamarum lorica, quidquid telorum ingereretur, facile repellente; confugiendum ad machinas, advectisque ballistis et catapultis velut arx quædam munita, deji-
ciendus

ciendus hostis fuit. Post aliquot jactus in vanum emissos ingens saxum spina dorsi perfracta, vigorem impetumque formidalis monstri resolvit. Sic quoque difficulter confectum est, tanto cum horrore legionum et cohortium, ut *se oppugnare Carthaginem, quam alteram talem bestiam malle faterentur*. Neque diutius ibi morari castra potuerunt, quin tabo infectas aquas, et omnem circa regionem fœtore jacentis pestifero adflatam fugerent. Non sine rubore aliquo humanæ superbiæ, quæ non raro viribus suis nihil negatum esse stolide putat. Exercitum certe Romanum imperatore M. Regulo, terra marique victorem unus anguis et vivus exercuit, et interfectus submovit. Quare nec puduit Proconsulem hujus etiam hostis spolia Romam mittere, timorisque sui magnitudinem et victoriæ gaudium publico monumento fateri. Corium enim belluæ detractum in urbem devehendum curavit: quod centum viginti pedes longum fuisse dicitur; et in templo quodam suspensum, ad Numantini usque belli tempora duravisse.” JOAN. FRIENSH. Suppl. Livian.



London, Published Decr. 1840, by F. & C. Nodder & Co. New Avenue Street.

THE GREAT BOA.



GENERIC CHARACTER.

Transverse *Lamellæ* both on the abdomen and beneath the tail.

SPECIFIC CHARACTER.

VARIEGATED BOA with about 240 *Lamellæ* on the abdomen and 60 beneath the tail.

By those who are unacquainted with the wonders of Nature, the descriptions given by Naturalists of some of the more striking and singular animals, are received with a degree of cautious scepticism, or even rejected as exceeding the bounds of credibility. Amongst these animals may well be numbered the prodigious serpents which are sometimes found in India, Africa, and America; serpents of so great a size as to be able to ingorge even some of the larger quadrupeds, and of so enormous a length as to measure 20, 25, and 30 feet. There is reason to believe that these immense serpents are become less common now than some centuries backwards, and that in proportion as cultivation and population have increased, the larger species of noxious animals have been expelled from the haunts of mankind, and driven into the more distant and uncultivated tracts. They are still however occasionally seen, and sometimes

times approach the plantations and gardens of the districts nearest to their residence.

It is happy for mankind that these gigantic serpents are not poisonous ; they are therefore to be dreaded only on account of their vast size and strength, which latter is so great as to enable them to kill cattle, deer, and other animals by writhing themselves round them, so as to crush them to death by mere pressure ; after which they swallow them in a very gradual manner, and when thus gorged with their prey, grow almost torpid with repletion ; and if discovered in this state may without much difficulty be dispatched by shooting or by other methods.

Considered as one of the great destroyers of the animal world, this serpent must be viewed with horror ; but if we take into consideration only its form and colors, we cannot deny it a very great share of external beauty : like many of its tribe, it is apt to vary in color, and appears in a more or less vivid state according to the period of life in which it happens to be found ; but it is generally of a greyish color, variegated on the back and sides in the most curious manner with large oblong patches and spots of bright reddish brown, which are still further decorated by having black margins, surrounded both internally and externally with streaks of white and yellow : the belly is commonly of a yellowish white.

It was in all probability an enormous specimen of this very serpent that once diffused so violent a terror amongst the most valiant of mankind, and threw a whole Roman army into dismay. Historians relate
this

this surprizing event in terms of considerable luxuriance. Valerius Maximus thus mentions it from Livy, in one of the lost books of whose history it was related more at large.

“ And since we are on the subject of uncommon phænomena, we may here mention the serpent, so eloquently and accurately recorded by Livy ; who says that near the river Bagrada in Africa a snake was seen of so enormous a magnitude as to prevent the army of Atilius Regulus from the use of the river ; and after snatching up several foldiers with its enormous mouth, and devouring them, and killing several more by striking and squeezing them with the spires of its tail, was at length destroyed by assailing it with all the force of military engines and showers of stones ; after it had withstood the attack of their spears and darts : that it was regarded by the whole army as a more formidable enemy than even Carthage itself ; and that the whole adjacent region being tainted with the pestilential effluvia proceeding from its remains, and the waters with its blood, the Roman army was obliged to remove its station: he also adds that the skin of the monster, measuring 120 feet in length, was sent to Rome as a trophy.” VAL. MAX.

The learned Frienshemius, in his *Supplementa Liviana*, has attempted a more ample and circumstantial narrative of the same event, and it cannot be unsatisfactory to the reader to receive a quotation from an author, who has so happily imitated the manner of the great historian.

“ In the mean time Regulus, every where victorious,
led

led his army into a region watered by the river Bagrada, near which an unlooked for misfortune awaited them, and at once affected the Roman camp with considerable loss, and with apprehensions still more terrible; for a serpent of prodigious size attacked the soldiers who were sent for water, and while they were overwhelmed with terror, and unequal to the conflict, engulphed several of them in its enormous mouth, and killed others by writhing round them with its spires, and bruising them with the strokes of its tail: and some were even destroyed by the pestilential effluvia proceeding from its breath; it caused so much trouble to Regulus that he found it necessary to contest the possession of the river with it by employing the whole force of his army; during which a considerable number of soldiers were lost, while the serpent could neither be vanquished nor wounded; the strong armour of its scales easily repelling the force of all the weapons that were directed against it; upon which recourse was had to battering engines; with which the animal was attacked in the manner of a fortified tower, and was thus at length overpowered. Several discharges were made against it without success, till its back being broken by an immense stone, the formidable monster began to lose its powers, and was yet with difficulty destroyed; after having diffused such a horror amongst the army, that they confessed they would rather attack Carthage itself than such another monster. Nor could the camp continue any longer in the same station, but was obliged to fly; the water and the whole adjacent region being tainted with the pestiferous effluvia. A
most

most mortifying humiliation to human pride! which sometimes vainly imagines nothing capable of resisting the powers of man. Here at least was an instance of a whole Roman army under the command of Regulus, and universally victorious both by sea and land, opposed by a single snake, which conflicted with it when living, and even when dead obliged it to depart. The proconsul therefore thought it no diminution to his dignity to send the spoils of such an enemy to Rome, and to confess at once the greatness of his victory and his terror by this public memorial; for he caused the skin of the snake to be taken off, and sent to the city; which is said to have measured 120 feet: it was suspended in a temple, and remained till the time of the Numantine war." FRIENSH. SUPPL. LIV.

VOLUTA ARAUSIACA.



CHARACTER GENERICUS.

Animal Limax.

Testa unilocularis, spiralis.

Apertura ecaudata, subeffusa.

Columella plicata: Labio Umbilicove nullo.

Lin. Syst. Nat. p. 1186.

CHARACTER SPECIFICUS, &c.

VOLUTA testa alba fasciis transversis fulvis,
columella sex-plicata.

VEXILLUM ARAUSIACUM.

Rara hæc et perelegans concha generis LINNÆANI
Volutæ nominati est species. Hanc ipsam ille nullibi
descripsit. Communiter illam appellaverunt physici
Vexillum Arausiacum. Indica est concha, et præcipue
in insula Amboyna reperitur.

Fig. 1. Testa adulta. Fig. 2. Testa junior.

THE
ORANGE FLAG,
OR
ORANGE-STRIPED VOLUTE.



GENERIC CHARACTER.

Animal resembling a Limax or Slug.

Shell unilocular, spiral.

Pillar or Column twisted or plaited.

SPECIFIC CHARACTER, &c.

WHITE VOLUTE, with orange-coloured transverse bands, and (generally) six plaits on the column.

LE PAVILLON D'ORANGE.

Argenv. Append.

Knorr. part 5, t. 1. f. 1.

The elegant and rare shell here figured, belongs to the Linnæan genus *Voluta*, but is not amongst the species described by LINNÆUS. Its general name amongst collectors is the Orange-Flag. It is an East-Indian shell, and is principally found in the island of Amboyna.

Fig. 1. The adult shell. Fig. 2. A somewhat younger shell.





PSITTACUS GLORIOSUS.



CHARACTER GENERICUS.

Rostrum aduncum : mandibula superiore mobili,
cera instructa.

Nares in rostri basi.

Lingua carnosæ, obtusa, integra.

Pedes scanforii.

Lin. Syst. Nat. p. 139.

CHARACTER SPECIFICUS.

PSITTACUS macrourus sanguineus, dorso nigro
maculato, alis caudaque cyaneis.

Psittacus hic formosus plerasque sui generis antecedit pulchritudine et colorum splendore. Ad species *macrouras* seu *longicaudas* pertinet. Color ejus generalis est vivide sanguineus, corporis parte inferiore paulum pallidiore. Plumæ dorsi nigrae sunt, rubro cinctæ : tectrices alarum minores lucidissime cæruleæ : versus mediam alarum partem color cæruleus magis cyaneus est, non sine virore aliquo obscuriore : super axillas color plumarum niger in maculam transversam nigram apicibus acuminatis discurret : cauda prælonga ad imum est cuneatior.

Novam Hollandiam incolit hæc avis, et magnitudine Psittacum Alexandri æquat, vel paulo superat.

Feminæ multo minus vividus est color ; dorsumque olivaceo tinctum.

T H E
S P L E N D I D P A R R O T .



G E N E R I C C H A R A C T E R .

Bill hooked. Upper mandible moveable.
Nostrils round, placed in the base of the bill.
Tongue fleshy, broad, blunt at the end.
Legs short. Toes formed for climbing, viz. two
 forward and two backward.

S P E C I F I C C H A R A C T E R , &c.

LONG-TAILED SANGUINE-RED PAR-
ROT, with the back spotted with black,
the wings and tail bright-blue.

PENNANTIAN PARROT.

Latham's Synopsis. Suppl. p. 61.

This beautiful bird exceeds most of its genus in the splendor of its colors. It ranks amongst the *Psittaci Macrouri*, or Long-tailed Parrots. Its general color is a vivid sanguine-red, somewhat paler on the lower part of the body ; and the feathers on the back are black, margined with red. The shoulder-feathers, or smaller coverts, are of a most brilliant blue: towards the middle part of the wing the blue becomes much deeper, and slightly tinged with green. Above the axillæ the black color of the back forms on each side a
transverse



London, Published

Janry 1799 by F. P. Nodder & Co. N. 45 Bruns Street.

transverse spot with sharpened extremities. The tail is very long, and cuneiform towards the tip.

This species is a native of New Holland, and is about the size of the common Ring-Parrakeet, or rather larger. The female is much less brilliant in color, and the back is of an olive green.

STAPELIA HIRSUTA.



CHARACTER GENERICUS.

Corolla contorta.

Nectarium stellula duplex in medio corollæ.

Pentandria Digynia.

CHARACTER SPECIFICUS, &c.

STAPELIA denticulis ramorum erectis.

Lin. Spec. Plantar. p. 316.

ASCLEPIAS AFRICANA AIZOIDES, flore
pulchre fimbriato.

Comm. rar. 19. t. 19.

Inter pretiosissimas plantarum dotes merito numeratur odor ille gratissimus quem plurimæ emittunt, quo in colligendo, conservando, augendo, subtiliter studioseque semper laboratum est. Suave-olentium vegetabilium tanta sane est diversitas, ut odores speciatim recensere vix possibile sit. Ut taceam rosam, violam, dianthum, cæteramque copiam narium in hortis plerisque repertam, genera Diosmæ, Illicii, Nyctanthes, et Polyanthes, velut exempla suavissimæ et pollentissimæ fragrantiaë satis sit proferre.

Huic aromaticorum ubertati opponuntur exempla aliquot contrarii odoris in generibus Ari, Sterculiaë, Lobeliaë, cæterisque nonnullis; rara hæc quidem, quæ tamen satis probant Naturam in humani generis oblectatione

lectatione non semper versari. Phalli species, in sylvis, exeunte æstate, non raro conspecta, odorem quasi carnis putridæ spargendo, insecta multa carnivora, muscas præcipue vulgares, seu carnarias ad se allicit, quæ in summitate plantæ catervatim conglomerantur, liquorem glutinosum exinde copiose effluentem avidissime exuentes.

Omnes autem hæcenus cognitæ, quæ more mortui cadaveris fætere solent, planta illa in tabula depicta longe superat; cui tanta est odoris putridi graveolentia, ut e longinquo veniant muscæ vulgares seu carnariæ LINNÆI, ovaque ibi deponant; quibus exclusis, larvæ parvo tempore plerumque pereunt; qua in re unica seipsam decipere, suæque quasi frustrare consilia videatur Natura. Interdum tamen, si qua fides observatoribus, accidit ut aliæ muscarum species, carnaria multo minores, in eodem flore ova sua deponant, larvæque exclusæ, ob exiguitatem parvo cibo egentes, florem ipsum depascant; ad plenam magnitudinem perveniant, et in chrysalides convertantur, ex quibus muscæ perfectæ postea erumpunt. Ita se rem habere demonstrat experimentum a domino HILL memoratum, qui narrat larvas plurimas muscarum, hoc solo flore enutritas, omnibus vicibus et permutationibus absolutis, ad plenam et perfectam maturitatem adolevisse.

Africæ est indigena hæc planta, et in promontorio bonæ spei præcipue invenitur.



FETID STAPELIA, OR THE CARRION-FLOWER.



GENERIC CHARACTER.

Corolla slightly twisted towards one side.

Nectary in form of a double star in the middle of the corolla.

Pentandria Digynia.

SPECIFIC CHARACTER, &c.

STAPELIA with the denticles of the branches upright.

THE CARRION-FLOWER.

The fragrance emitted by the major part of the vegetable world is such as to be regarded amongst the most elegant and valuable attributes of plants; and the ingenuity of mankind has been studiously employed in collecting, preserving, and concentrating it. So great is the variety of vegetable perfumes that it is hardly possible to enumerate the different kinds. Without particularizing the rose, the violet, the carnation, and many other common inhabitants of the garden, we might adduce the genera of *Diosma*, *Illium*, *Nyctanthes*, *Polyanthes*, and some others, as
peculiar

peculiar examples of the richest and most exalted fragrance.

Amidst this profusion of sweets in the vegetable kingdom there are occasionally interspersed some examples of a contrary odor: thus some species in the genera of *Arum*, *Sterculia*, *Lobelia*, and a few others, are convincing proofs that Nature does not always accommodate her productions to the immediate gratification of the human sense.

A species of *Morell*, not uncommon in woods towards the latter part of the summer, has a smell so much resembling that of putrid animal matter, as to attract several species of carnivorous insects, and particularly flies, which are generally observed settled in great numbers on the top of the plant, and eagerly feasting on the glutinous moisture with which it abounds.

But of all vegetables yet known, which are possessed of a smell similar to that of animal substances, the plant here figured is by far the most remarkable; and when in a state of florescence, diffuses a scent so powerfully cadaverous as to allure the common flesh-fly, or blow-fly to deposit its eggs on the flower, where they are hatched, and the young larvæ, for want of proper nutriment, commonly perish soon afterwards; and thus Nature in this single instance, almost seems to have deceived herself. If however we may rely on some observations, it happens sometimes that other species of flies much smaller than the common flesh-fly, deposit their eggs in the flower, and when hatched, the larvæ being very small, and not requiring much food,
do

do actually find a sufficient nutriment from the flower itself, till the time of their change to chrysalis arrives; and after the usual period become complete flies; and this appears to have been the case in an instance recorded by the late Sir JOHN HILL, where several larvæ of flies are said to have passed through all their changes, though nourished solely by the flower of this plant.

It is a native of Africa, and is principally found at the Cape of Good Hope.

SOREX BICOLOR.



CHARACTER GÉNÉRICUS.

Dentes Primores superiores duo bifidi.

Inferiores quatuor : intermediis brevioribus.

Laniarii utrinque plures.

Lin. Syst. Nat. p. 73.

CHARACTER SPECIFICUS, &c.

SOREX cauda mediocri, corpore supra nigricante, subtus albicante.

SOREX cauda mediocri subnuda, corpore nigricante, subtus cinereo.

Erx. Mamm. p. 124.

MUSARANEUS dorso nigro ventreque albo.

Merret. pin. p. 167.

Inter quadrupedes Britanniae rariores merito numeratur parvulus hic Sorex, ab illis solummodo qui praecipuam scientiae naturali navant operam, observari solitus. In Europa fere omni nascitur, et ut docet dominus PALLAS, in Sibiria frequenter reperitur. In Gallia annum circiter millesimum septingentesimum quinquagesimum sextum a domino DAUBENTON detectus et descriptus est. In Anglia longe antea cognitus,

tus, inter animalia tamen deperdita habebatur, donec
annum circiter millesimum septingentesimum sexagesi-
mum octavum, juxta cœnobium de Reevesby in comi-
tatu Lincôlniensi iterum deprensus sit. Vix dubitan-
dum est quin in aliis multis Angliæ partibus possit in-
veniri. Cur tamdiu incognitus manserit in causa esse
videtur obscuritas latibulorum, (amat enim ripas flu-
viorum, locaque aquosa,) nec non communis hujus-
modi rerum incuria. In certis Buckinghamiæ locis
nequaquam rarus est, et Oxoniæ vicinio: sedem vero
sibi potissimum delegit in aggeribus fluminis Collegii
Beatæ Mariæ Magdalenæ ambulacra circumeuntis;
ubi non raro mortuus jacet, quod et Sorici Araneo
LINNÆI, seu vulgari sæpius accidit, a qua specie facil-
lime primo intuitu, colore nempe longe diverso, dig-
nosci potest.



S

London, Published, Jan'y 1779, by F. P. Nodder off N^o 15 Brewer Street.

THE
WATER-SHREW.



GENERIC CHARACTER.

Two *cutting Teeth* in each jaw.
Long slender *Nose*: small *Ears*.
Five *Toes* on each foot.

Pennant.

SPECIFIC CHARACTER, &c.

SOREX black above, whitish beneath.

MUSARAIGNE D'EAU.

Daubenton Mem. de l'Acad. de Paris, 1756,
p. 211. t. 5. f. 2.

WATER-SHREW.

Pennant Hist. Quadr. p. 480.

This animal may be numbered amongst the rarer quadrupeds of Britain, and is but very seldom noticed except by those who pay a more than ordinary degree of attention to the natural productions of our kingdom. It appears to be a native of almost every part of Europe, and from the observations of Dr. PALLAS it should seem to be very well known in Siberia. In France it was discovered and described by Mr. DAUBENTON in the year 1756. In England it had long before been noticed;

ticed; but was considered amongst the lost quadrupeds of our island till about the year 1768, when it was again observed in the neighbourhood of Reevesby-Abbey in Lincolnshire. It may probably be discovered in many other parts of the kingdom, and its continuing so long undistinguished must partly be ascribed to the obscurity of its retreats, under the banks of rivers, and in watery places, and partly to a mere want of attention to objects of this nature. In some parts of Buckinghamshire it is not very uncommon, it is also found in the neighbourhood of Oxford; and it seldom fails to reside in the banks of the river surrounding the water-walks of Magdalen College; and is not unfrequently found dead by the edges of the walks, in the same manner as the common Shrew, or *Sorex Araneus* of LINNÆUS, from which it may always be most readily distinguished by its very different color.

LOXIA JUGULARIS.



CHARACTER GENERICUS.

Rostrum conico-gibbum, frontis basi rotundatum
versus caput : Mandibula inferior margine
lateralis inflexa.

Nares in basi rostri.

Lingua integra.

Lin. Syst. Nat. p. 299.

CHARACTER SPECIFICUS.

LOXIA testaceo-ferruginea, nigro undulata, fas-
cia gulæ sanguinea.

Africam incolit hæc avicula. Coloris est Castanei ;
seu griseo-ferruginei, maculis lunatis nigris eleganter
undulati : Decoratur gula fascia lata transversa vivide
coccinea.

THE
RED-THROATED GROSSBEAK.



GENERIC CHARACTER.

Bill strong, thick, and convex.

Nostrils small.

Tongue truncated.

SPECIFIC CHARACTER, &c.

PALE-FERRUGINOUS LOXIA, undulated
with black, with a blood-red fascia on the
throat.

FASCIATED GROSSBEAK.

Lath. Synops. 2. p. 156

THE CUT-THROAT SPARROW.

Lev. Mus.

This bird is a native of Africa. Its colour is a palish chestnut, or grey ferruginous, elegantly undulated with semi-lunar marks of black. The throat is ornamented with a broad transverse band of the deepest vivid red.



London, Published Feb. 21st 1799, by F. P. Nodder & Co.

N^o. 15 Brewer Street.

CHÆTODON ARMATUS.



CHARACTER GENERICUS.

Dentes fetacei, flexiles, confertissimi, numerosissimi.

Membrana branchiostega radiis sex.

Corpus plerumque fasciatum. *Pinna* dorfi anique carnosa squamosa.

CHARACTER SPECIFICUS.

CHÆTODON ALBESCENS, corpore fasciis septem nigris, spinis pinnæ dorsalis sex, tertia longissima.

Novam et perelegantem generis Chætodontis speciem dat tabula inspiciendam. Vix quatuor uncias superabat speciminis longitudo unde hæc nostra figura delineata est. Color huic Chætodonti est argenteo-albus, dorso sub-cæruleo. Fasciæ corporis transversæ nigerrimæ sunt : pinnæ caudaque pallide fusca : spina seu radius tertius pinnæ dorsalis anterioris cæteris multo longior. Maris Australis incola est hic piscis ; prope novam Hollandiam captus est, indeque nuperis navigiis ad nos allatus.

THE
LONG-SPINED CHÆTODON.



GENERIC CHARACTER.

Teeth setaceous, flexile, closely set, extremely numerous.

Branchiostegous membrane with six rays.

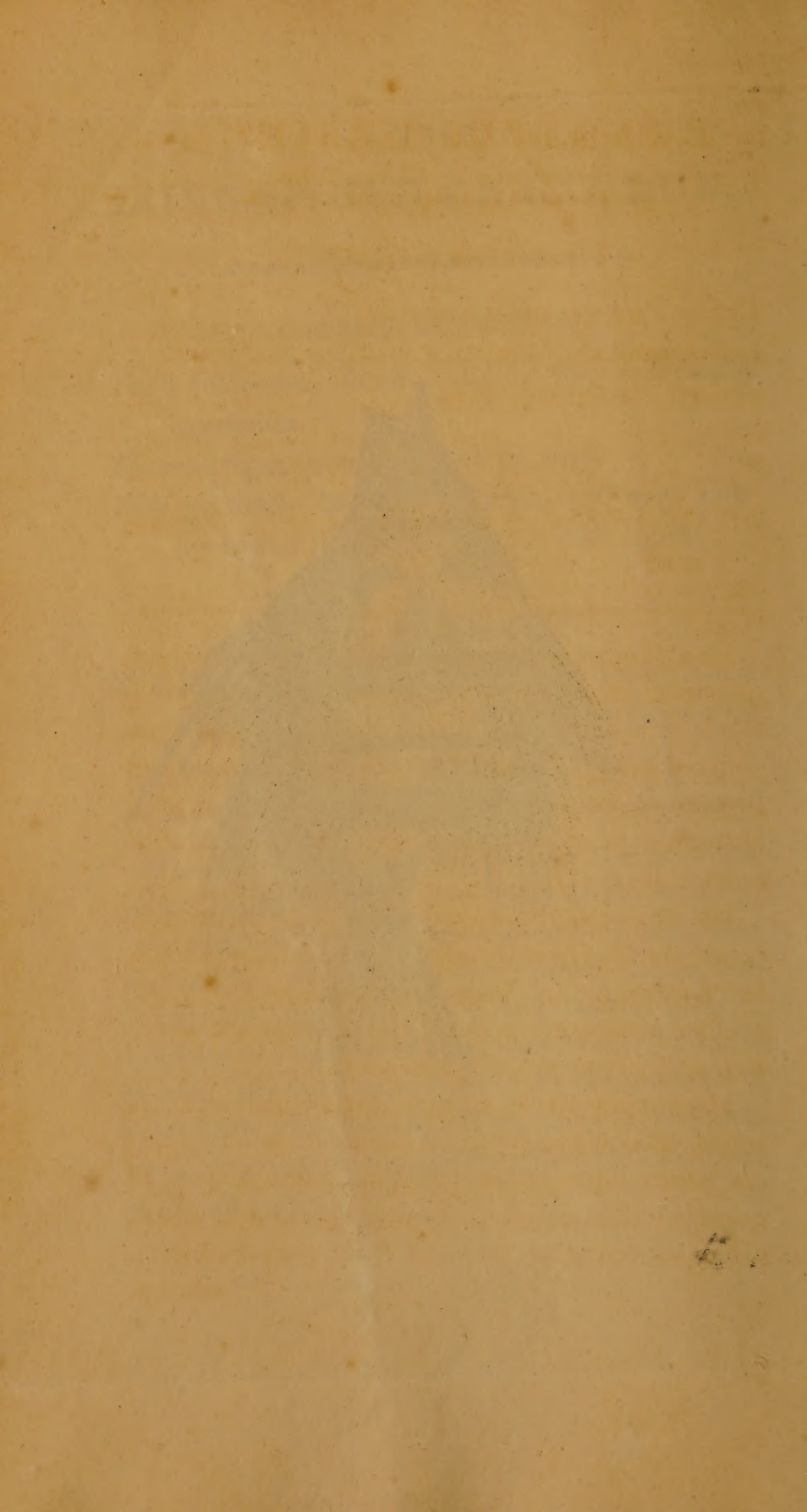
Body generally fasciated. Dorsal and anal *Fins* somewhat fleshy and coated with scales.

SPECIFIC CHARACTER.

WHITISH CHÆTODON, with seven black bands on the body, six spines on the dorsal fin, the third very long.

This fish is a new and very elegant species of the genus Chætodon. The total length of the specimen from which the figure was taken was scarcely more than four inches : the color is a silvery white ; darker, and of a blueish tinge on the back : the transverse fasciæ or bands are of a deep black : the fins and tail are of a pale brown : the third ray or spine of the first dorsal fin is much longer than the rest. It is a native of the Southern Ocean, and was brought from New-Holland in one of the last voyages,





BRADYPUS URSINUS.



CHARACTER GENERICUS.

Dentes Primores nulli utrinque.

Laniarii obtusi, solitarii, molaribus longiores.

Molares utrinque 5 vel 6.

CHARACTER SPECIFICUS.

BRADYPUS niger hirsutissimus, naso elongato nudo.

Inter plurima quæ physicis nuperrime innotuerunt, principem sibi locum non immerito vindicat animal in tabula depictum ; quod fortasse nonnullis videatur novum omnino per se genus constituere. Opinione tamen firmatus celeberrimi PENNANTI, cujus comes, in illius characteres primum sedulo inquisivi, ad genus Bradypi referendum censeo.

Habitu corporis externo ad ursum vulgarem tam prope accedit Bradypus Ursinus, ut pro Ursi specie a quibusdam habitus sit. Vetant tamen omnino dentes, unguesque peculiariter formati, cum cæteris characteribus, ut Ursi speciem esse pronunciam.

Magnitudine est ursi vulgaris, exceptoque vultu, seu rostro, villo nigro, longo, et hirsuto totus obtegitur ; qui tamen super collum et tergum multo longior est quam in cætero corpore. In partibus corporis anterioribus antrorsum spectat hirsutia ; in posterioribus retrorsum.

trorsum. Oculi minimi : aures parvæ, et denso capitis vellere fere absconditæ. Dentes incisores nulli sunt. Utrique maxillæ insunt duo dentes lanarii modici : qui in maxilla superiore siti sunt uncias circiter duas a se invicem distant ; qui in inferiore, paulo minus. In maxilla superiore insunt dentes molares tres utrinque, quorum duo maxime remoti seu interiores sunt quasi duplices et lobati ; alter simplex est. In inferiore sunt utrinque sex molares, quorum remotissimus seu interior simplex est ; duo huic proximi duplices, cæterique tres simplices. Linguae lævi nihil peculiare est. Rostrum elongatum est, et tensile, videturque cartilagine transversa et mobili interius esse instructum. Ungues pedum anticorum, qui quinque, sunt validissimi, modice incurvati et acuminati : pedum posteriorum ungues breviores sunt et potius rotundati : Cauda brevissima vix distingui potest.

Ab interiore Bengala allatus est Bradypus Urfinus, et quartum jam annum excessit. Primo detectus Ursum Lotorem LINNÆI, qui *Raccoon* vulgo dicitur, magnitudine vix superavit ; illumque latratum quasi caninum emisisse asserunt custodes. Vox illi nunc nulla est præter rugitum brevem et abruptum, qui non nisi laceffito et irritato prodit. Mitis est et tranquilligenii. Vegetabilibus et lacticiniis vescitur : gaudet pomis, carnesque fastidit, nisi forte tenerrimas. Medullam tamen ex osse lubentissime exugit. Melle, saccharo, et omnis generis cupediis delectatur. Motus huic non ut in aliis ejusdem generis, tardissimus, sed modicus. Solet iterum atque iterum, more canis cubitum ituri, circumgyrare.

gyrare. Terram scalpere, et sub humo velle se occultare dicitur, unde a repertoribus primo effossus est.

Ab ingenioso Domino CATTON figuram hanc nostram mutuati sumus, qui quicquid animali proprium et singulare est optime expressit.

In altera tabula ringens exhibetur caput, ut situs dentium ostendatur, nec non ut rostrum superius, ope cartilaginis internæ egregie flexibile, quodammodo demonstretur.



Mr W. Shurby - yawning



THE
URSINE BRADYPUS,
OR
URSIFORM SLOTH.



GENERIC CHARACTER.

Cutting-Teeth none in either jaw.

Canine-Teeth solitary, longer than the grinders.

Grinders in each jaw 5 or 6.

SPECIFIC CHARACTER.

BLACK BRADYPUS with very long shaggy hair, and naked lengthened snout.

Amongst the new species of animals with which Zoology has been lately enriched, the creature here figured claims a distinguished place; and it may be doubted whether it might not with great propriety constitute a new genus. In compliance however with the opinion of Mr. PENNANT, in whose company I first made an accurate examination of its characters, I have here placed it as a species of the genus *Bradypus*, or Sloth.

In its habit, or general appearance, it has a striking resemblance to the common bear, and it has even been considered as a species of bear by some naturalists.

Its teeth, however, and the peculiar formation of its claws, with several other particulars, absolutely forbid it to be any longer considered as a species of *Ursus*.

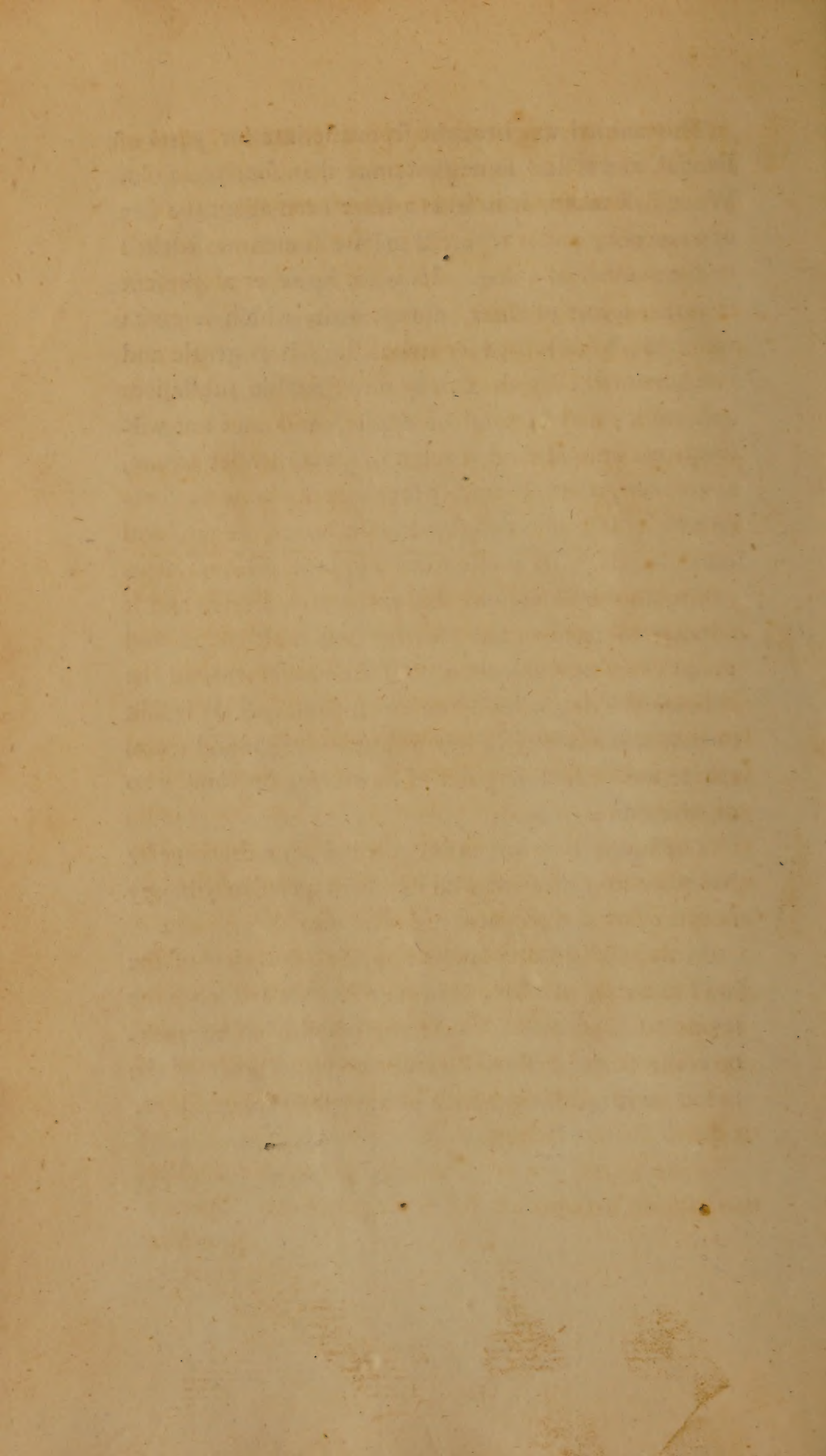
The animal is about the size of a bear, and is covered all over, except on the face, or rather the snout, with long, shaggy, black hair, which on the neck and back is much longer than in other parts. On the fore part of the body the hair points forwards, and on the hinder part backwards. The eyes are very small; the ears rather small, and partly hid in the long hair of the head. It is totally destitute of incisores or front-teeth: in each jaw are two canine teeth of a moderate size: those in the upper jaw are situated at the distance of two inches from each other: those in the lower jaw are placed somewhat less remote. The molares or grinders in the upper jaw are three on each side; of which the two most remote are double, or lobed: the remaining one simple. In the lower jaw there are on each side six grinders, of which the most remote or backward is simple; the two next double, and the three remaining ones simple. The tongue is smooth, and has nothing remarkable in its appearance. The nose, or snout is of a somewhat elongated form; it also appears as if furnished with a sort of transverse joint, or internal cartilage, which admits of a peculiar kind of motion in this part. The claws on the fore-feet are five in number, and are excessively strong, moderately crooked, and sharp pointed: those on the hind-feet are shorter, and of a rounder shape. The tail is very short, and inconspicuous.

This

This animal was brought from the interior parts of Bengal, and is now somewhat more than four years old. When first taken, it is said to have been about the size of a raccoon, and is reported to have sometimes barked in the manner of a dog. Its voice however at present is rather a sort of short, abrupt roar, which it emits when much disturbed or irritated. It is gentle and good-natured : feeds chiefly on vegetable substances and milk ; and is fond of apples, and does not willingly eat animal food, except of a very tender nature, as marrow, which it readily sucks from a bone presented to it. It is also delighted with honey, sugar, and other sweets. Its motions are not as in others of this genus, slow and languid, but moderately lively, and it appears to have an habit of turning itself round and round every now and then, as if for amusement, in the manner of a dog when lying down to sleep. It is said to have a propensity to burrowing under ground ; and that it was at first dug out of its retreat by those who discovered it.

The figure here given is copied from a drawing by Mr. CATTON, an artist who has been peculiarly happy in expressing the appearance of the animal.

In the additional plate is represented a view of the head in a ringent state ; in order to shew not only the form and disposition of the teeth, but also in some measure the singular flexibility of the upper part of the snout, as if furnished with a joint or internal cartilage.



PETAURUS AUSTRALIS.



CHARACTER GENERICUS.

Dentes varii in variis.

Corpus cute volatili cinctum.

CHARACTER SPECIFICUS.

PETAURUS supra nigricans, subtus albicans,
pollicibus plantarum rotundatis.

Arbitrentur fortasse Physici debere Petaurum Australem genus potius per se constituere, quam inter novas species numerari. Cum vero generum institutio ob hanc vel illam peculiarem notam, pedum nempe seu dentium formam, scientiam naturalem sæpe perturbet et obscuret, molestiamque potius quam auxilium tyroni afferat; satius duxi Petaurum Australem velut speciem Sciuri volantis describere. Sciurosque ipsos volantes ab aliis disjungere, et in genere distincto nomine Petauri reponere. Quamvis enim a LINNÆO in eodem genere cum Sciuris aliis numerentur, fatendum tamen est, membranam, seu cutim extensam, cujus ope volitant, adeo esse singularem et propriam, ut non immerito ad genus separatum possint pertinere.

Hoc tamen fortasse nonnullis videatur curiose potius quam utiliter factum.

Totius igitur generis Petauri, species hic depicta non tantum maxima est, sed et elegantissima. Species

præterea est nova, de Nova Hollandia non ita pridem petita. Magnitudine cuniculo juniori vix cedit.

Color corporis superni est fusco-cinereo-nigricans, inferioris fere albidus. Pilus est præter modum mollis et elegans; cujus si copia sufficeret, nescio annon aliorum animalium vellera, utcunque pretiosa, fordescerent. Pedum posticorum forma singularis est: Pollex seu digitus primus rotundatus est, ungue complanato et rotundato; cum aliis omnibus digitis ungues acuminati sint. Digiti quoque duo intermedii, seu pollici proximi, cute communi ad ipsos ungues conjunguntur. Cauda longa pilo mollissimo et delicatulo densissime vestitur.

In narratione itineris australis a Domino WHITE, hoc animal nomine *Hepoona Roo* distinguitur, et pulcherrime a Domino CATTON depingitur: figuram igitur ibi datam, utpote eximiam, in hoc nostro opere imitamur.



London, Published March 1779, by T. P. Nodder & Co. N. 15. Brewer Street.

THE
SOUTHERN PETAURUS.



GENERIC CHARACTER.

Teeth differing in the different species.

Body furrounded by a flying-skin.

SPECIFIC CHARACTER, &c.

PETAURUS blackish above, whitish below,
with the thumbs of the hind-feet rounded.

HEPOONA ROO.

White's Voyage to Botany Bay.

It may perhaps be doubted whether this animal might not constitute a genus per se; rather than be regarded as a species merely : but as the institution of genera from two or three particular circumstances only ; *e. g.* a peculiarity in the teeth, claws, &c. frequently throws much confusion on natural history, and rather tends to embarrass than instruct a student in the science, I have thought it best to describe this animal as a species of flying-squirrel, and to separate the flying-squirrels from the genus *Sciurus*, with which LINNÆUS had conjoined them, and to form them into a genus by the name of *Petaurus*.

This perhaps may be thought an unnecessary piece of exactness ; yet there is something so peculiar in the expanded processes of skin by which the flying-squir-

rels are distinguished, that they may properly enough be allowed to form a distinct genus.

Of all the species then of this genus the animal here figured is the largest and the most elegant: it is also a new species; having been brought from New Holland during the late voyages.

Its color is a very fine fable or deep grey-brown above, while the lower surface is nearly white. The fur is of the most exquisite softness and elegance, and if the animal could be procured in sufficient plenty, would bid fair to supersede the richest furs hitherto in use. The structure of the hind foot in this species is remarkable; the thumb or first toe being of a rounded form and furnished with a flattened nail, while the remaining toes have sharp claws; and the two second toes, or those next the thumb, are united in one common covering or skin to the very claws: the tail is long, and is very thickly cloathed with fur of the softest and most delicate appearance.

In Mr. White's Journal of a voyage to New South Wales, this animal is distinguished by the title of *He-poona Roo*, and is beautifully figured by Mr. CATTON; which figure, on account of its excellency, we have not scrupled to copy in the present work.

SIREN LACERTINA.



CHARACTER GENERICUS.

Corpus bipedum, caudatum, nudum.

Pedes brachiati, unguiculati.

Lin. Syst. Nat. vol. 1. pt. 2. *Addend.*

CHARACTER SPECIFICUS, &c.

SIREN corpore anguilliformi, branchiis ramosis.
SIREN LACERTINA.

Amæn. Acad. vol. 7. p. 311.

Sirenem a reliquis animalibus adeo eminenter distinxit Natura, forma ambigua, et dubiis characteribus, ut celeberrimus LINNÆUS novum illi Amphibiorum ordinem nomine *Meantes* instituerit ; qui tamen novus ordo non inter alia Amphibia in Systemate Naturæ invenitur, sed in nota ad finem partis secundæ tomi primi istius operis exstat.

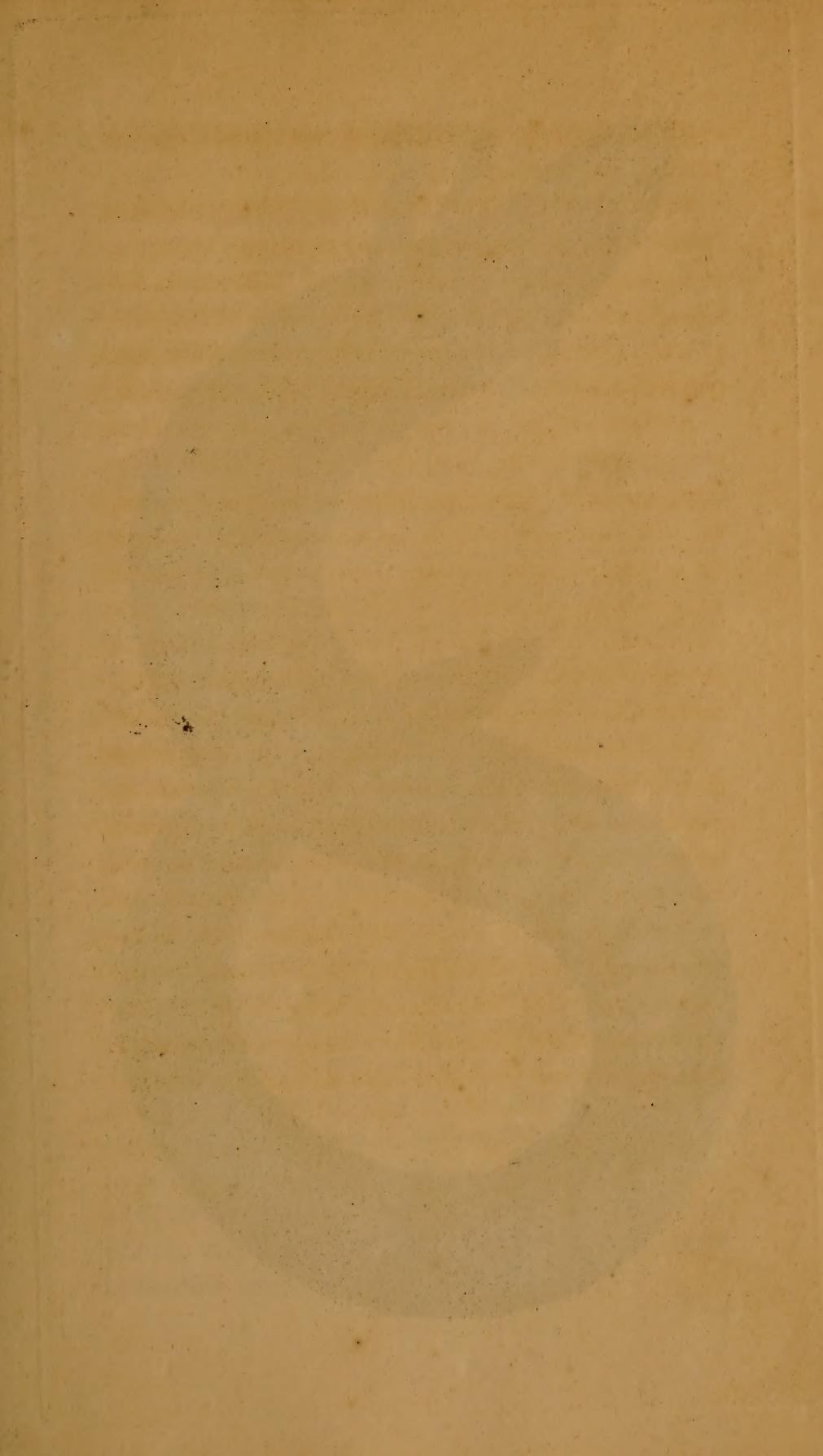
Genus cui Siren affinitate summa conjungi videtur, est genus *Lacerta* : lacertæ enim larvam valde repræsentat, et dubitant nonnulli an talis revera sit nec ne : characteres tamen omnes videntur esse animalis perfecti et adulti, nec hætenus visa est Siren in alia aliqua forma statuque. Pedes tantum duos habet, sine ullis pedum posteriorum vestigiis ; illosque unguibus munitos, cum larvarum omnium lacertarum, hætenus cognitarum, pedes sunt, (lingua LINNÆANA) mutici, sive unguibus

unguibus destituti. Os dentium parvulorum seriebus pluribus munitur.

Singulare hoc animal Americam Septentrionalem inhabitat, et in Carolina Australi præcipue invenitur, in locis uliginosis et aquosis minime infrequens, sub aqua plerumque degens, interdum vero in terram progrediens. Vocem habet stridulam, five cantillantem, quam ob causam a LINNÆO nomine Sirenis distinguitur.

A Domino GARDEN, medico in Carolina per multos annos celeberrimo, primo detectum fuit descriptumque; qui etiam specimina nonnulla ad LINNÆUM misit. LINNÆUS in epistola sua ad Dominum GARDEN de Sirene, affirmat nullum aliud unquam animal se adeo torfisse, nec aliud se plus velle, quam veram istius naturam optime callere. Non silendum est Sirenem in terram modica vi jactatam, in partes tres vel quatuor dissilire, quod aliquibus etiam serpentibus evenit.

In Actorum Anglicorum volumine quinquagesimo sexto describitur Siren a Domino ELLIS, qui etiam figuram addidit, quæ adeo ad normam animal exprimit, ut potius visum sit eam ipsam imitari, quam novam, diverso situ, effingere. Summam Sirenis larvæ laceratæ similitudinem demonstrat triplex branchiarum ramosarum utrinque in collo par, ut sit in larva lacertæ vulgaris aquaticæ. Species lacertæ cui Siren maxime videtur affinis, est lacerta a LINNÆO *Teguixin* nominata. Ad longitudinem fere duorum pedum crescit Siren.





THE S I R E N.



GENERIC CHARACTER.

Body two-footed, tailed, naked.

Feet brachiate (*i. e.* placed in the manner of arms), and furnished with claws.

SPECIFIC CHARACTER.

SIREN with an eel-shaped body, and ramified branchiæ, or respiratory organs.

The Siren stands eminently distinguished in the list of animals by the ambiguity of its characters, which are such as to have induced the great LINNÆUS to institute for it a new order of Amphibia, under the title of *Meantes* ; an order however which does not stand amongst the Amphibia in the *Systema Naturæ*, but is mentioned in a note at the end of the second part of Vol. I. of that work.

The genus with which the Siren has evidently the greatest possible affinity, is that of *Lacerta* or Lizard. It even very much resembles the larva, or first state of a *lacerta* ; and it is still doubtful whether it may not really be such ; but it has never been observed in any other state, and it has always two feet only, without any appearance of a hind-pair. It likewise has all the characters of an animal in its complete state ; the feet in particular, are armed with claws, whereas the larvæ of all the *lacertæ* are without claws, or in the LINNÆAN phrase, *digitis muticis*. The mouth has several rows of smallish teeth.

This

This most singular animal is a native of North America, and the part where it has principally been found is the province of South Carolina, where it is not uncommon in muddy and swampy places, living generally under water, but sometimes appearing on land. It has a sort of squeaking or singing voice, for which reason LINNÆUS has applied to it the name of Siren.

It was first discovered by the ingenious Dr. GARDEN, who resided long in South Carolina, and who sent an account of the animal, accompanied with specimens, to LINNÆUS. LINNÆUS in his letter to Dr. GARDEN on this subject, declares that nothing had ever exercised his thoughts so much, nor was there any thing he so much desired to know as the real nature of this extraordinary creature. It is remarkable that the Siren, when thrown on the ground with a degree of violence, breaks in three or four pieces; in which particular it resembles some of the serpent tribe.

In the fifty-sixth Volume of the Philosophical Transactions is an account of the Siren by the late Mr. ELLIS, illustrated by a figure which so very accurately expresses the animal, that we have not scrupled to copy that figure, rather than to give a new one in a different posture. What causes this animal to approach very nearly to the appearance of the larva of a lacerta, is, that it is furnished on each side the neck, with three pair of ramified branchiæ, in the same manner as the larva of the common water-newt. The species of lacerta to which it seems most allied is the Lacerta Tequixin of LINNÆUS. It grows to the length of nearly two feet.

GRYLLUS MIGRATORIUS.



CHARACTER GENERICUS.

Caput inflexum, maxillosum, palpis instructum.

Antennæ setaceæ, seu filiformes.

Alæ quatuor, deflexæ, convolutæ: inferiores plicatæ.

Pedes postici saltatorii. *Ungues* ubique bini.

Lin. Syst. Nat. p. 693.

CHARACTER SPECIFICUS, &c.

GRYLLUS thorace subcarinato: segmento unico, capite obtuso, maxillis atris.

Lin. Syst. Nat. p. 700.

GRYLLUS thorace subcarinato: segmento unico, mandibulis cæruleis.

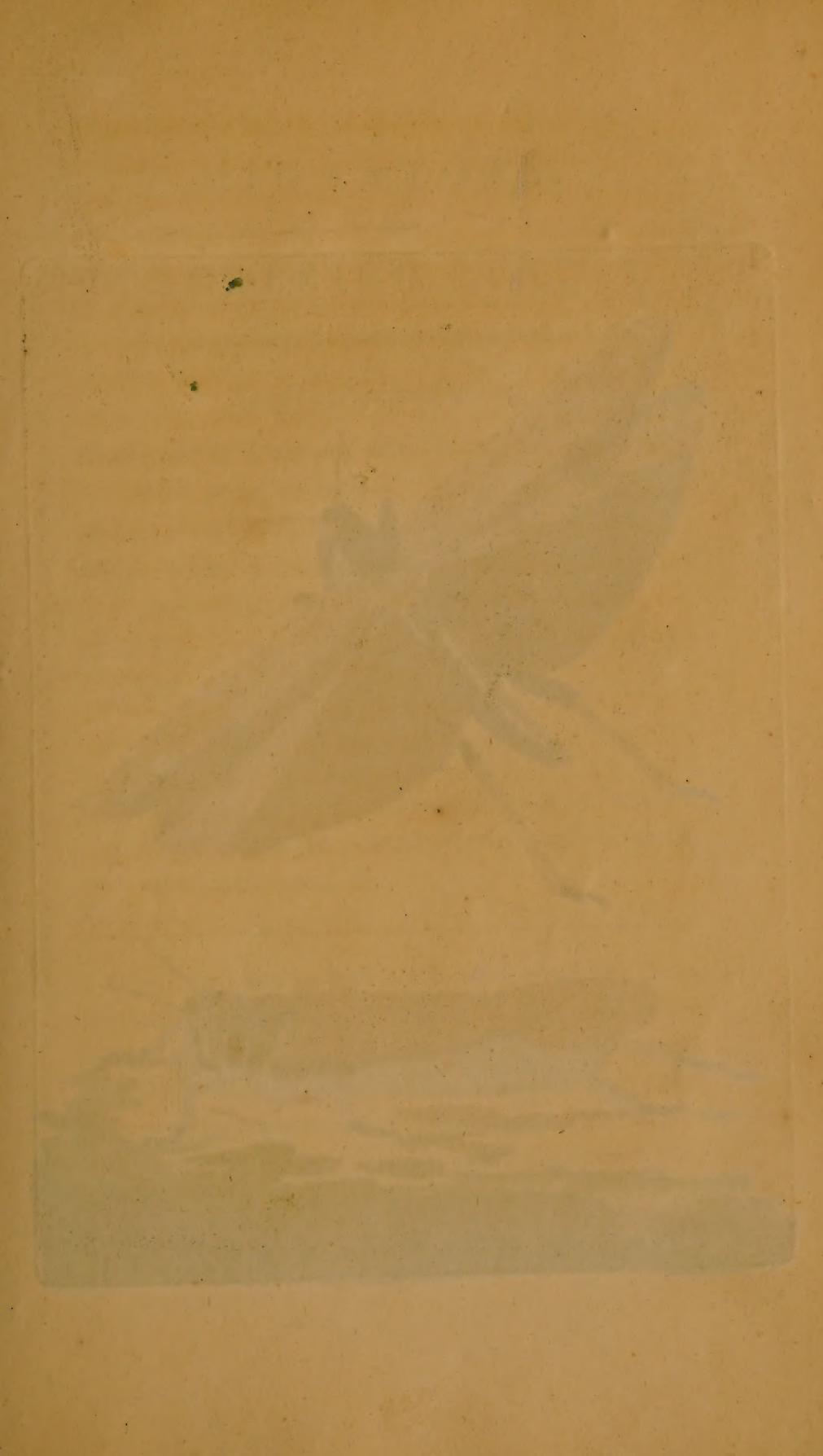
Fabr. Spec. Inf. tom. 1. p. 365.

Præter omnia insecta quæ fruges devorando hominum misérias augere solent, Grylli, sive Locustæ ut communiter dicuntur, maxime metuendam stragem nobis inferunt. In calidioribus terræ partibus, Africæ præcipue et Orientis regionibus, edacissimorum horum animalium innumeræ exurgunt catervæ, quæ supra fidem omnia devastant; tractus per quos volitant, fere desolant, et spatio brevi amœnissimas et fertilissimas provincias in deserta convertunt; dum densissimo eorum

rum agmine ipse dies adimitur. Dubitari pene possit, sintne locustæ nocentiores vivæ an mortuæ; e mortuorum enim millibus tanta exoritur putredo, ut incipientis pestis unâ e causis valentissimis censeatur. Locustarum plurimæ sunt species, quarum quæ maxime fortasse vorax et exitiosa est ea in tabula depicta, quæ *Gryllus Migratorius LINNÆI*. Plerumque coloris est subfusci, sed maculis obscurioribus variati; et in quibusdam corporis partibus coloris est rubentis, seu potius carnei; crura autem plerumque sunt subcærulea. Anno millesimo septingentesimo quadragesimo octavo, in varias Europæ partes irrupit hæc species, sed in ceteris sparsis et diffractis. In Germaniam, Galliam, et Angliam involabant, et in urbe ipsa Londini ejusque vicinio plurimæ reperiiebantur hujusmodi locustæ: brevi tamen spatio periere, vix ulla agris illata injuria. Maxima omnium specierum hæctenus cognitarum est *Gryllus cristatus LINNÆI*, qui insectum jam descriptum mole quincuplici vel etiam sextupla superat; quique cum aliis majoribus hujus generis, in nonnullis Orientis regionibus pro cibo usurpari solitus est. Non tantum recentes, sed et sale conditæ comeduntur hæc locustæ, et in foro publico venales prostant in oppidis Levantinis. Substantia tamen earum pergracilis est, præcipue insectorum marium; nam foeminae ob ovarium paulo plenior escam suppeditant. Notissimum est multum disputasse theologos de loco in scriptis evangelicis, ubi dicitur JOANNEM BAPTISTAM locustis et melle sylvestri vitam sustinuisse, quorum nonnulli per verbum *ακρίδας*, teneras tantum plantarum summitates intelligi voluerunt. Cum tamen probe com-

pertum

pertum sit, Arabas hisce animalibus vel nunc pro cibo uti, vix egere videtur illa vox ulla alia interpretatione præter communem et vulgarem. Cur enim miremur sanctum illum et abstemium prophetam, cum ab inanibus mundi gaudiis se procul subduceret, cibo usum fuisse non fane inter dapes lautiores numerando, sed illo tantum qui in locum potioris escæ suffectus sit? Ut hanc conjecturam firmemus, testimonium Domini HASSELQUIST liceat nobis proferre, qui de hac ipsa re ita loquitur. “ Qui insectis virum hunc sanctum vesci solitum fuisse negant, aiunt cibum e locustis paratum ignotum prorsus esse et inusitatum. Si verò hi in Ægyptum, Arabiam, aut Syriam migrarent, longe aliter de hac re sentirent: certis enim temporibus locustas afatas communiter comedunt Arabes, nec dubitandum est illis tempore quo vixit JOANNES BAPTISTA, pro cibo fuisse. Præterea his locis mores antiqui non facile dilabuntur, nec BAPTISTÆ cibus mirus aut insolitus jam reputatur. Presbyter etiam Græcus, nequaquam indoctus, mihi pro vero affirmavit ecclesiam suam per verbum *ακριδας* locustas semper intellexisse; risitque ipse cum a me audiret nostros interpretes plantam aut avem illo verbo significari conjecisse. ”





London, Published March 1799, by G. P. Nodder & P. A. Colman, Senr.

THE
MIGRATORY,
OR,
WANDERING LOCUST.



GENERIC CHARACTER.

Head inflected, armed with jaws, and furnished with palpi or feelers.

Antennæ either setaceous, or filiform.

Wings four, deflected, convolute; the inferior ones plaited.

Hind-Foot formed for leaping. *Claws* on all the feet double.

SPECIFIC CHARACTER.

GRYLLUS with subcarinated thorax with a single segment, obtuse head, and blackish or blueish jaws.

Of all the insects which are capable of adding to the calamities of mankind by devouring the products of the earth, locusts seem to possess the most formidable powers of destruction. Legions of these voracious creatures are from time to time produced in various parts of Africa and the Eastern World, where the havock they commit is almost incredible. They carry desolation with

with them wherever they pass, and in the short space of a few hours change the most fertile provinces into the appearance of a barren desert ; while the air is darkened by their numbers. Nay even when dead they are still terrible, since the putrefaction which arises from their inconceivable number, is such that it has been regarded as one of the principal causes of a beginning pestilence. There are a great many different species of locusts. One of the most destructive is the *Gryllus Migratorius* of LINNÆUS, or the Wandering Locust, here represented. It is generally of a brownish color, varied with spots of a deeper cast, and in some parts with pale red or flesh-color, and the legs are commonly blueish. In the year 1748 this species appeared in irregular flights in several parts of Europe ; as in Germany, France, and England, and in London in particular, and its neighbourhood, great numbers were seen : they perished however in a short time, and were not productive of any mischief. The largest species of locust yet known is the *Gryllus Cristatus* of LINNÆUS, which is five or six times as large as the species just described ; and which, together with some other of the larger kind, is made use of in some parts of the world as an article of food. They are eaten both fresh and salted, in which last state they are publicly sold in the markets in some parts of the Levant. The quantity of edible substance which they afford is but small, especially in the male insects ; but the females, on account of the ovaries, afford a more nutritious sustenance. It is well known that different interpretations have sometimes been given of the passage
in

in the sacred writings in which JOHN THE BAPTIST is said to have fed on locusts and wild honey ; and the word *angidas* has been supposed to mean the young shoots of vegetables, rather than locusts ; but since the fact is well established, that these insects are still eaten by the inhabitants of the East, there seems not the least reason for admitting any other interpretation than the usually received one : Why should we wonder that the abstemious prophet, during his state of solitary seclusion from the commerce of the world, should support himself by a repast which is to be numbered not amongst the luxuries of life, but merely regarded as a substitute for food of a more agreeable nature ? We may also adduce, in support of this idea, the testimony of HASSELQUIST, who thus expresses himself on this very subject. “ They who deny insects to have been the food of this holy man, urge, that this insect is an unaccustomary and unnatural food ; but they would soon be convinced of the contrary, if they would travel hither, to Egypt, Arabia, or Syria, and take a meal with the Arabs. Roasted locusts are at this time eaten by the Arabs at the proper season, when they can procure them ; so that in all probability this dish has been used in the time of ST. JOHN. Ancient customs are not here subject to many changes, and the victuals of JOHN are not believed unnatural here ; and I was assured by a judicious Greek priest, that their church had never taken the word in any other sense, than that of locusts ; and he even laughed at the idea of its being a plant or a bird.”

HASSELQUIST'S *Travels*, Eng. Translation, p. 419.

MUSCICAPA PORPHYROBRON- CHA.



CHARACTER GENERICUS.

Rostrum subtrigonum, utrinque emarginatum,
apice incurvo; *vibrissæ* patentes versus fauces.
Nares subrotundæ.

Lin. Syst. Nat. p. 324.

CHARACTER SPECIFICUS.

MUSCICAPA nigra, gula purpurea.

Rara hæc avis Americam Australem, et præcipue
Cayanam inhabitat. Nigra est, excepta gula, seu colli
parte anteriore egregie purpurea. Femina penitus
nigricat. Magnitudine merulam vulgarem fere æquat.

THE
PURPLE-THROATED FLY-
CATCHER.



GENERIC CHARACTER.

Bill somewhat trigonal, emarginated on each side,
with incurved tip; furnished with spreading
vibriffæ or whiskers towards the mouth.

Nostrils roundish.

SPECIFIC CHARACTER, &c.

BLACK FLY-CATCHER, with purple throat.

PURPLE-THROATED FLY-CATCHER.

Lath. Synops. 4. p. 365.

PIAUHAU.

Buff. Ois. 4. p. 588.

This rare and curious bird is a native of South America, and is principally found in Cayenne. It is entirely black, except on the fore-part of the neck, which is of a rich and deep purple. The female is totally black: its size is nearly that of a black-bird.



S. A.

London, Published April 1st 1791

by R. P. Nodder & Co. N. B. Brewer, Sculp.

ALPHABETICALLY

OF THE NAMES OF THE

PLANTS OF THE

UNITED STATES

AND

THE ADJACENT ISLANDS

AND

THE CANAL ZONE

OF THE PANAMA CANAL

BY

JOHN R. HILL

AND

JOHN R. HILL

AND

JOHN R. HILL

AND

JOHN R. HILL

AND

JOHN R. HILL

AND

JOHN R. HILL

AND

JOHN R. HILL

ACARUS VEGETANS.



CHARACTER GENERICUS.

Pedes octo.

Oculi duo ad latera capitis.

Tentacula duo, articulata, pediformia.

Lin. Syst. Nat. p. 1022.

CHARACTER SPECIFICUS.

ACARUS crustaceus rufus marginatus convexus,
subtus planus.

Lin. Syst. Nat. tom. 3. p. 226.

Quod physicis haud omnino ingratum esset me facturum arbitratus sum si insectum illud singulare a LINNÆO *Acarus Vegetans* nuncupatum, ob exiguitatem antehac pene neglectum accurate describi et depingi curarem. Aliorum insectorum corporibus plerumque se affigit hujusmodi acarus, illorum præcipue quæ *Coleoptera* LINNÆI constituunt, quæque communiter Scarabæi dicuntur.

Sæpissime illum comperi corpori aut elytris adhaerentem Histeri Unicoloris LINNÆI, parvi nempe insecti coleoptrati, in hortis, ineunte vere, minime rari. Frequenter etiam eum vidi scarabæo stercoreario LINNÆI adjunctum, et altero Scarabæo minori, fuscae nempe varietati *simetarii* ejusdem auctoris, mensibus Aprilis et Maii, in fimo bovino ut plurimum obvii.

Mirandus

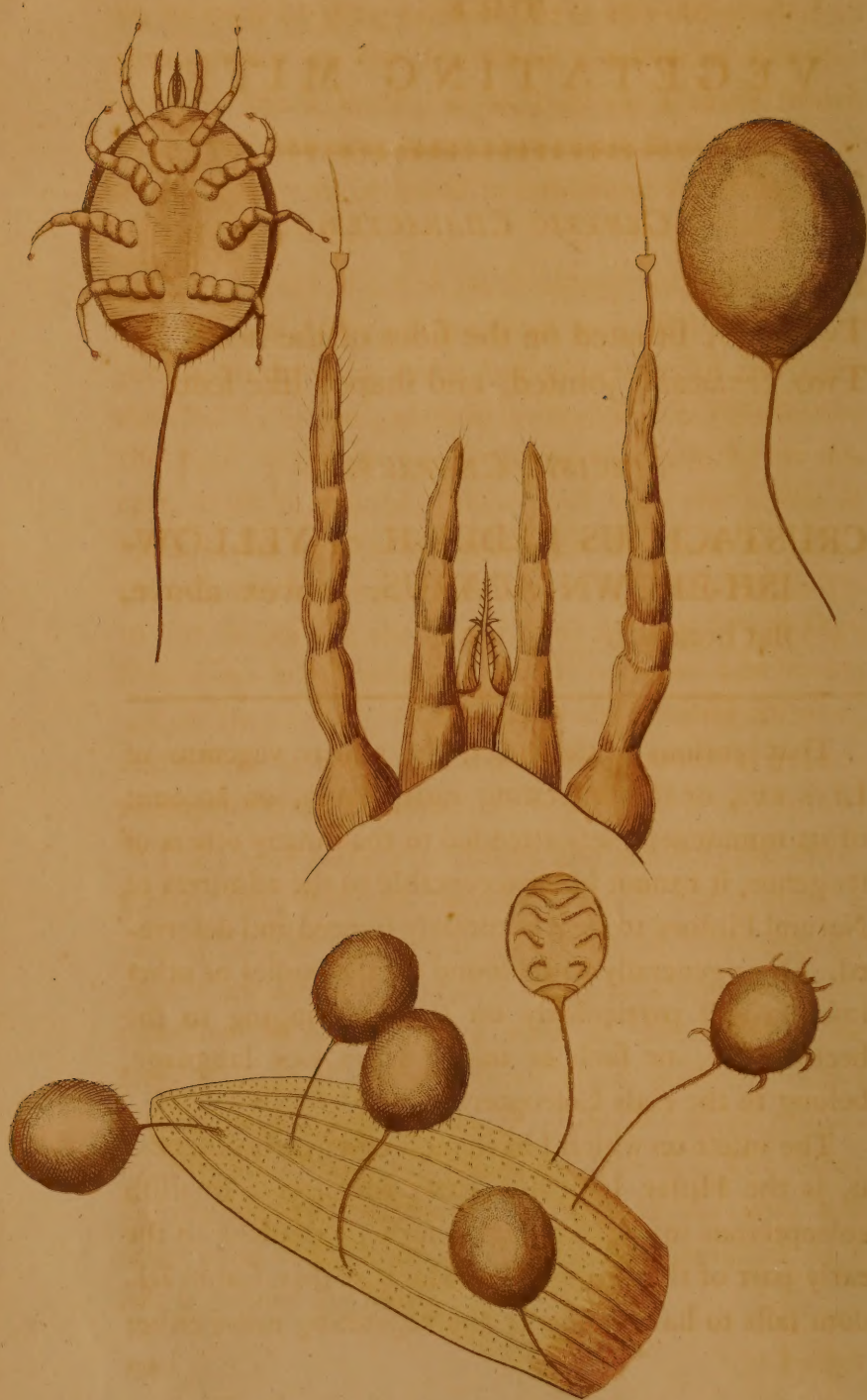
Mirandus omnino est modus quo adhærent hi acari corporibus aut elytris aliorum animalculorum, pedicello nempe, seu stipite flexili; quo fit, nisi succus nutritius ab hoc pedicello absorbeatur, (quod ut fiat tubulatum putemus,) necesse esse stipitem aliquando femicirculatim posse eos curvare, ut insectum cui affiguntur fugendo se alant. Interdum illis adeo coope-riuntur Coleoptera, ut elytra seu alarum tegumenta non possint conjungi, ipsique artus impediti ægre moveantur.

Acari Vegetantis superficies superior est glabra et convexa; inferior fere complanata. Clarius tamen patebit similitudo insectum ipsum depictum inspicienti, quam ex descriptione colligi possit. Figuræ duæ superiores acarum anticum et posticum repræsentant. Figura autem magna ostendit plures, sex nempe, elytro adhærentes illius scarabæi quem varietatem esse *finetarii* ante diximus. Alia maxillas, cæterasque capitis partes mire conformatas, multo tamen auctius, monstrat.

Magnum horum me memini numerum Onisco a LINNÆO *Armadillo* nominato, seu *millepedæ officinarum*, ut dicitur, annexum semel conspexisse. Ut verbo dicam, acarum vegetantem nihil aliud esse suspicor præter larvam acari coleoptratorum, LINNÆI, qui super scarabæos fere omni tempore possit inveniri, physicisque optime innotescit. Notandum præterea acarum vegetantem non in genere acari apud LINNÆUM reperiri, sed in appendice animalium ad finem voluminis tertii Systematis Naturæ.

Celeberrimus

Celeberrimus DE GEER in Actis Stockholmiensibus
anni millesimi septingentesimi sexagesimi octavi par-
vulum hoc animalculum descripsit et delineavit, vix
tamen fatis eleganter aut accurate. In Historia Infec-
torum iterum illud descripsit idem auctor et depinxit.



THE VEGETATING MITE.



GENERIC CHARACTER.

Eight *Legs*.

Two *Eyes*, situated on the sides of the head.

Two *Tentacula*, jointed, and shaped like feet.

SPECIFIC CHARACTER.

CRUSTACEOUS REDDISH or YELLOW-
ISH-BROWN ACARUS, convex above,
flat beneath.

That curious little insect, the acarus vegetans of LINNÆUS, or the vegetating mite, being, on account of its minuteness, less attended to than many others of its genus, it cannot be unacceptable to the admirers of Natural History to see it accurately figured and described. It is generally to be found on the bodies of other insects; and particularly on those belonging to the beetle tribe, or such as in the LINNÆAN language, belong to the class Coleoptera.

The insect on which I have most commonly observed it, is the Hister Unicolor LIN: which is a smallish coleopterous insect, frequently seen in gardens in the early part of the spring, and which at that season seldom fails to have some of the vegetating mites either

on

on its body or wing cases. I have also observed it in great plenty on the *scarabæus stercorarius* LIN: or common black beetle, as well as on a small brown variety of the *scarabæus fimetarius* LIN: which is almost always to be found in cow-dung in the months of April and May.

The manner in which these minute insects adhere is very curious; for each is affixed by a flexible stalk or pedicle to the wing-shells and other parts of the insect they infest; so that unless their nutriment is absorbed by the stalk which supports them, (and which, in this case, must be tubular,) they must have the power of bending the stalk in a semicircular direction at particular times, so as to enable them to adhere occasionally to the insect for the purpose of feeding. They are sometimes so numerous as to prevent the beetles on which they grow, from closing their wing-sheaths; and adhere to their limbs in such a manner as greatly to impede their motions.

The upper surface is smooth and convex; the lower surface flat; but the figures annexed will convey a clearer idea of the several particulars of their appearance than any description. The two upper figures represent the fore and back view of the insect. The large groupe represents six of them adhering to the elytron or wing-sheath of the brown variety above-mentioned of the *scarabæus fimetarius*. The other figure shews the singular appearance of the jaws and other parts at the head of the insect, magnified in a much greater degree.

I once observed these insects in great plenty on the oniscus armadillo, or common officinal Millepede. Upon the whole, I am strongly inclined to believe the vegetating mite to be nothing more than the larva or young of the acarus coleoptratorum, or common beetle-acarus, which infests those insects at most seasons of the year, and which is well known to every observer of insects. I should observe that the acarus vegetans does not occur under the genus acarus in the *Systema Naturæ* of LINNÆUS, but is mentioned in the appendix animalium at the end of the third volume of that work.

DE GEER in the *Acta Stockholmiensia* for the year 1768 has described and figured this insect; but his figures cannot be commended either for their elegance or accuracy. He has also figured and described it in his *History of Insects*.

LACERTA PLATURA.



CHARACTER GENERICUS.

Corpus tetrapodum, caudatum, nudum.

Lin. Syst. Nat. p. 359.

CHARACTER SPECIFICUS.

LACERTA cauda depresso-plana lanceolata,
margine subaculeato, corpore griseo-fusco
scabro.

*Ungues quasi duplicati: lingua brevis, lata, integra,
seu non forficata; apice autem leniter emargi-
nato.*

Lacertam Platuram, quam nuperrime detectam generavit Nova Hollandia, insigniter distinguit cauda depresso et complanata, margine tenuissimo, sensim in acutum apicem decrescens. Rarissima est in genere hæc caudæ planities, nec accidit nisi duabus vel tribus speciebus. Uncias quatuor cum semisse paulum superat longitudine Platura. Caput magnum pro corpore. Tota superior superficies tuberculis parvis exasperatur, quæ in aliquibus partibus, versus occiput præcipue et caudam, in mucrones acuminatos extenduntur. Inferior superficies pallida est, seu albescens.

THE BROAD-TAILED LIZARD.



GENERIC CHARACTER.

Body four-footed, tailed, naked.

SPECIFIC CHARACTER.

LIZARD with a depressed lanceolate tail, almost spiny on the margin; the body of a dusky grey color, and rough.

The claws appear as if double; the tongue is short and broad, not forked, but slightly emarginated at the tip.

The *Lacerta Platura* or broad-tailed Lizard, a species very lately discovered, and which is a native of New Holland, is strikingly distinguished by the uncommon form of its tail, which is of a depressed or flattened shape, with very thin edges, and gradually tapers to a sharp extremity. This depressed form of the tail is extremely rare in lizards, there being scarcely more than two or three other species in which a similar structure takes place. This lizard is somewhat more than four inches and a half in length; the head is large in proportion; and the whole upper surface of the animal is beset with small tubercles, which in some parts, especially towards the back of the head, and about the tail, are lengthened into sharpened points. The lower surface is of a pale color, or nearly white.



London, Published April 1st 1799 by T. P. Nodder & Co. No. 15 Bowyer Street.

TROCHILUS COLUBRIS.

CHARACTER GENERICUS.

Rostrum subulato-filiforme, apice tubulato, capite longius : Mandibula superior vaginans inferiorem.

Lingua filiformis, filis duobus coalitis tubulosa.

Pedes ambulatorii.

Lin. Syst. Nat. p. 189.

CHARACTER SPECIFICUS, &c.

TROCHILUS rectirostris viridi-aureus, rectricibus nigris, lateralibus tribus ferrugineis apice albis, gula flammea.

Lin. Syst. Nat. p. 191.

MELLIVORA gula rubra.

Edw. Av. t. 36.

MELLIVORA Avis Carolinenfis.

Catesb. Carol. 1. p. 65.

Coloribus nitidis adeo gemmeisque exornatur minimum Trochili genus, ut si cum his comparantur, non modo fordeant prorsus et obscurentur avium plurimum regiones calidiores incolentium venustissimi colores, sed et aurum ipsum pyropusque longe superentur. Nequeunt igitur ulla arte splendidissimi hi colores ad

G g

vivum

THE
RED-THROATED HUMMING-
BIRD.

GENERIC CHARACTER.

Bill slender, tubular, the upper mandible sheathing the lower.

Tongue very long, missile ; formed of two conjoined cylindric tubes.

Toes three forward, one backward.

SPECIFIC CHARACTER, &c.

STRAIT-BILLED gold-green HUMMING-
-BIRD, whitish beneath, with gold-red
throat.

LE RUBIS.

Buff. Ois. 6. p. 13.

L'OISEAU - MOUCHE a gorge rouge de la
Caroline.

Briss. Orn. 3. p. 716. No. 13.

The lively colors with which Nature has so liberally adorned the birds of the warmer regions, sink into obscurity when compared with the polished radiance and gemmeous lustre which distinguish most of the species of this diminutive genus. The ruby is not more
vivid



part than the ...
to ...
is ...
less their ...
to give a general idea of ...
nature exhibits to ...
There are ...
the golden ...
of ...
on ...
in ...
species in ...
particular ...
remarkable for ...
the genus ...
displays a more elegant ...
same may be ...
of the genus.

This beautiful bird ...
America, and is very ...
of North and South ...
is black; the upper part ...
the golden-green, the ...
glowing ...
colored gold; the ...
long feathers of the wings are of a ...
The female differs in having the ...
white ...
about the ...
of a ...

vivid than the red which some species exhibit, nor gold so brilliant as the glance of their varying plumage : it is therefore entirely beyond the power of art to represent their colours with fidelity : all that can be done is to give a general idea of the inimitable beauties which Nature exhibits to us in these birds.

Before the discovery of the Western Hemisphere, the golden-crested wren was believed to be the smallest of birds; but the Naturalists of Europe were astonished on finding that the new world afforded birds inferior in size to many of the European insects; and that one species in particular was scarce larger than a common beetle. As that very minute species however is not so remarkable for the beauty of its color as most others of the genus, I have rather chosen to exhibit one which displays a more elegant assemblage of colors, and at the same time may be numbered amongst the smallest of the genus.

This beautiful bird is a native of many parts of America, and is very frequently seen in the provinces of North and South Carolina. The bill in this species is black; the upper parts of the bird are of a rich variable golden-green; the chin and throat of the most glowing scarlet, changing according to the light into polished gold; the breast and belly are white, and the long feathers of the wings are of a purplish brown. The female differs in having the whole under surface white, without any of the ruby-red, which so richly adorns the male. This diminutive bird flies with a rapidity altogether astonishing. It feeds in the manner of a moth on the wing, by inserting its long tubular
tongue

tongue into the bottoms of flowers, from which it sucks the honey-juice. They are said to be of a very pugnacious nature, and have frequently the most violent contests when they happen to dispute the possession of the same flower. They often fly into houses, and after taking a few circuits round the room in the manner of European insects, again dart into the open air. They build amongst the thick foliage of trees, on some forked twig. The nest is about an inch in diameter in the inside, and half an inch deep: it is lined with the down of plants, and coated on the outside with moss and lichens. They lay only two eggs, which are perfectly white, and about the size of peas. During the time of incubation, and when the eggs are hatched, they shew an astonishing degree of courage, and in defence of their young have frequently been known to attack and put to flight even the larger birds which have happened to approach near the same tree. They have no other note than a kind of sharp squeak, which they emit now and then; the noise which they make during flight is caused by their wings, and is not unlike that of a fly, or bee.

CHÆTODON ENCELADUS.

CHARACTER GENERICUS.

Dentes setacei, flexiles, confertissimi, numerosissimi.

Membrana branchiostega radiis sex.

Corpus plerumque fasciatum. *Pinna* dorsi anique carnosæ squamosæ.

CHARACTER SPECIFICUS, &c.

CHÆTODON albescens, pinna dorsuali spinis novem, maculaque ocellari, rostro elongato subcylindrico.

CHÆTODON ROSTRATUS.

Lin. Syst. Nat. p. 462.

JACULATOR. *Aët. Angl.* 1764.

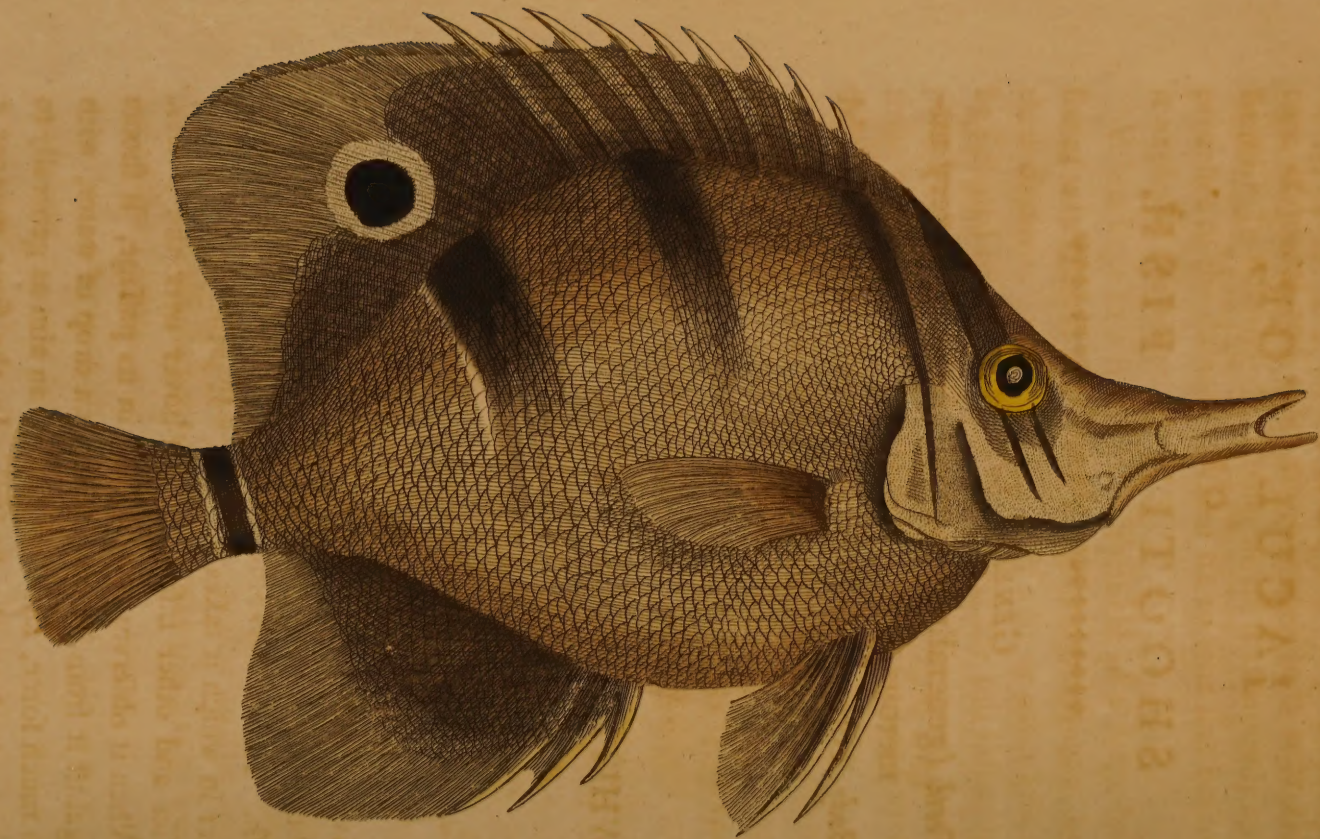
Indiam incolit piscis cujus magnitudinem naturalem exprimit tabula, fluviosque præcipue amat mari proximis qui idcirco paululum habent falsuginis. Mirandus omnino est prædandi modus, quo muscis aliisque insectis super aquas volitantibus insidiatur, in quæ simul ac transeuntia viderit, e rostro tubulato aquæ guttulam tanta cum vi directe jaculatur, ut plerumque mortua decidunt. Eodem modo petit animalcula quæ super plantas ex aquis eminentes solent confidere, distantia quatuor vel etiam sex pedum prius dimensa.

In

In piscina conservati hi pisces miræ hujusmodi artis specimen dant lepidissimum. Insectum enim margini vasis affixum illico sentiunt, et quasi certatim et pro præmio jaculantes, rarissime a scopo aberrant.

Color Encelado est pallidus, fasciis plerumque aliquot nigricantibus transverse per corpus ductis. Oculi permagni. In parte inferiore pinnæ dorsalis macula est magna, rotunda, ocellata, nigra, iride seu circulo pallido cincta. Rostrum longius quam multis ejusdem generis, et a natura ad aquæ ejaculationem exquisitè comparatum: nomen autem triviale *rostratus* a LINNÆO datum haud satis speciem indicat, et forte æquali jure cum aliis hujus generis conveniat: hanc igitur speciem nomine *Enceladus* distinxi.

Notandum præterea, verisimile esse facultatem istam aqua ejaculata prædam petendi, non omnino propriam et peculiarem esse huic speciei, sed et aliis forsan paucis inesse.



THE
JACULATOR,
OR
SHOOTING FISH.

GENERIC CHARACTER.

Teeth (generally) setaceous, small, and very numerous.

Body commonly fasciated transversely. Dorsal and anal *Fins* fleshy and scaly toward the base.

SPECIFIC CHARACTER.

WHITISH CHÆTODON, with nine spines and an ocellated spot on the dorsal fin, and a lengthened subcylindric snout.

The fish here represented in its natural size, is a native of India, where it inhabits rivers, especially where the water, from its nearness to the sea, is a little brackish. It is remarkable for the very extraordinary manner in which it takes its prey. It principally feeds on flies and other insects which hover over the waters. When it observes one of these in its passage, it shoots against it from its tubular snout a drop of water, with so much force, and with so sure an aim as generally to lay it dead on the surface. In the same manner it
shoots

shoots at such insects as happen to be sitting on the tops of plants and other projecting objects near the banks. In shooting at a sitting insect it commonly approaches to the distance of from six to four feet before it explodes the water.

When kept in a state of confinement in a large basin of water, these fish afford a high entertainment, by their dexterity in this exercise. If a fly or other insect be fastened on the edge of the vessel, the fish instantly perceive it, and, as if contending for the prize, continue to shoot at it, with such admirable skill as scarce ever to miss their mark.

The color of this fish is whitish, or very pale brown, with (commonly) four or five blackish fasciæ running across the body. The eyes are very large. On the lower part of the dorsal fin is a very remarkable large black ocellated spot, surrounded by a circle of a lighter color. The snout is finely calculated for the power of exploding water from it. The trivial name of *Rostratus*, which LINNÆUS applied to this fish, being not sufficiently distinctive of the species, but applying with perhaps equal propriety to some others of the genus, I have presumed to substitute that of *Enceladus*.

I think it necessary to observe that it is not improbable that the faculty of darting or shooting water from the snout may not be absolutely peculiar to the fish above-described, but may perhaps take place in two or three other species.

PAPILIO ACHILLES.



CHARACTER GENERICUS.

Antennæ apicem versus crassiores, sæpius clavato-capitatae.

Alæ (sedentis) erectæ fursumque conniventes (volatu diurno).

Lin. Syst. Nat. p. 744.

CHARACTER SPECIFICUS.

PAPILIO alis dentatis : supra nigris fascia cærulea ; subtus fuscis : ocellis tribus quinisve.

Lin. Syst. Nat. p. 752.

Eq : Achiv.

Clerk. ic. t. 24. fig. 2.

Mer. Sur. t. 7. ?

Americam Australem incolit grande hoc insectum, venusta quadam dignitate conspicuum. Colores interdum variant. Habent nempe nonnulla specimina fasciam istam quæ splendidissime cærulea est latiore multo quam alia. Differunt etiam tum numero tum colore pallidæ illæ maculæ ad apices alarum superiorum sitæ, interdumque fere albæ sunt, et paululum ocellatæ, interdum subfusco obumbratæ. Superfici inferioris

inferioris color est fuscus, striis pallidioribus undulatus,
maculisque magnis ocellatis, quarum alba sunt centra,
distinctus.



London: Published May 18 59, by J. E. Volder & Co. No. 10, Newman Street.

ACHILLES,
OR THE
GREAT BLUE-BANDED
BUTTERFLY.



GENERIC CHARACTER.

The *Antennæ* or *Horns* thickening towards the upper part, and generally terminating in a knob, or club-shaped tip.

The *Wings* (when sitting) erect, and meeting upwards. (*Flight* diurnal).

SPECIFIC CHARACTER.

BLACK BUTTERFLY with indented wings, crossed by a broad band of blue : the lower surface brown, with ocellated spots.

This insect, so remarkable for its size and the grandeur of its appearance, is a native of South America. It is subject to some variety ; the band of brilliant blue being wider in some specimens than in others : there is also a difference in the number as well as the color of the pale spots with which the upper wings are marked towards their tips, which in some specimens are nearly white, and of a somewhat ocellated appearance ; in others

others tinged with pale brown. The lower surface of this insect is brown, undulated with paler streaks, and ornamented by some large ocellated spots with white centres or pupils.

ANAS MERIANÆ.

CHARACTER GENERICUS.

Rostrum lamelloso-dentatum, convexum, obtusum.

Lingua ciliata, obtusa.

Lin. Syst. Nat. p. 194.

Ord. Anseres.

CHARACTER SPECIFICUS.

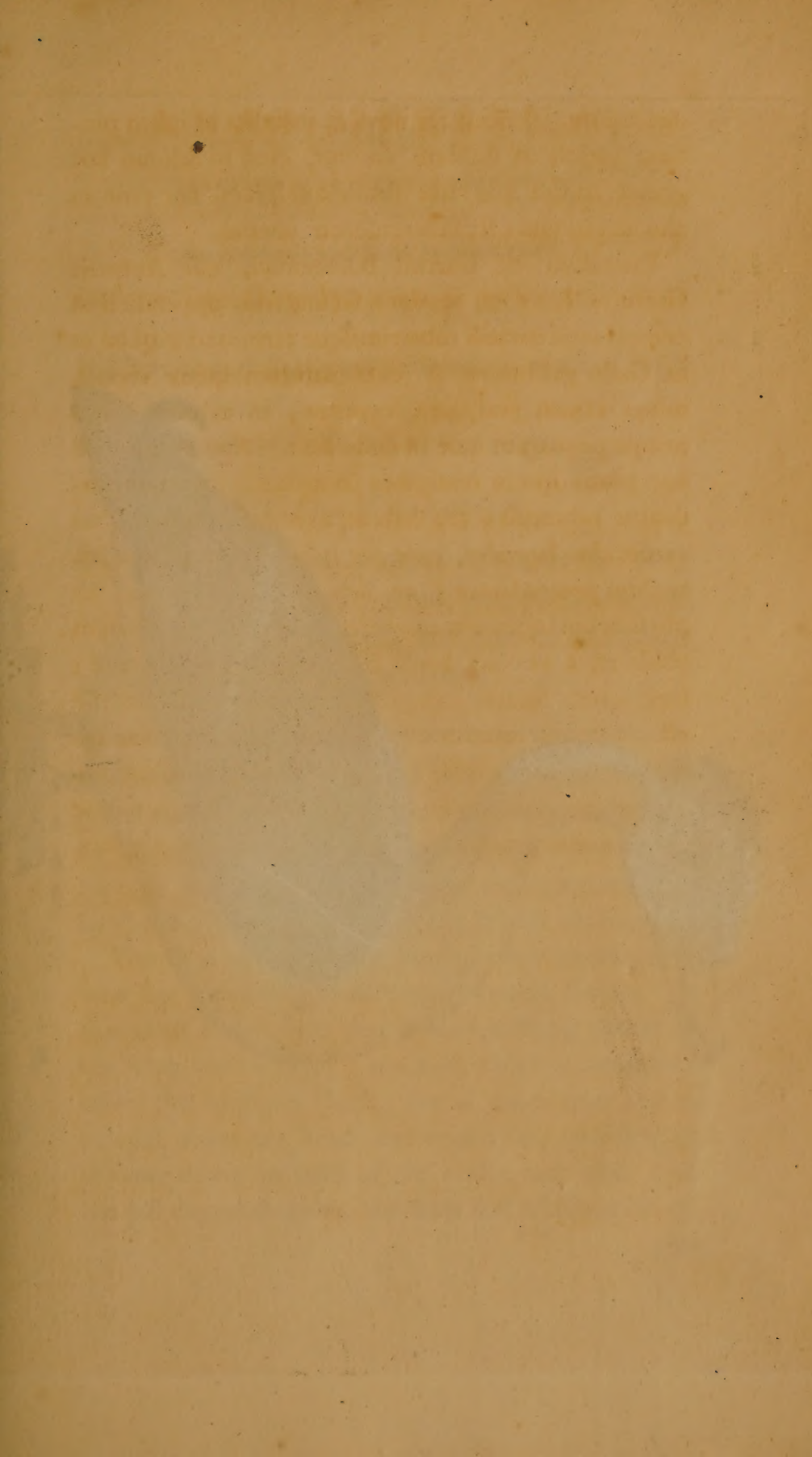
ANAS cupreo-ferrugineo cyaneo viridique varia, subtus alba, capite collo postico remigumque secundariorum apicibus carunculatis.

Ab exemplari, quod cum aliis multis Surinamensibus a lectissima MERIAN eximie depictis, in Museo Britannico asservatur, pulcherrimam hanc avem imitati sumus.

Omnes quibus illam intueri datum est semper torfit species incognita. Ad LINNÆI Anatis moschatæ similitudinem, seu, ut vulgo dicitur Moscoviticæ videtur accedere; caput tamen pluribus tuberculis aspergitur, per collum etiam posticum longe decurrentibus; quodque magis mirandum, in apicibus remigum secundariorum magna horum exuberat luxuria, fasciam duplicem caruncularum per mediam alam transverse

ducentium. Effecit res nova et inaudita ut ipsius picturæ veritas in dubium vocetur, cum in reliquo hoc genere frustra quæratür simile quidpiam, nec sane in alio aliquo tanta sit tuberculorum ubertas.

Fatendum est Garruli Boiohemici, qui Ampelis Garrulus LINNÆI, remiges secundarios appendicibus complanatis corneis ruberrimisque terminari; quod et in Gallo gallinaceo, si juxta naturam ipsam vixerit, minus tamen perspicue, cernitur; in extremitatibus nempe pennarum quæ in collo sunt. Annon igitur in hac anatis specie remigibus secundariis revera appendantur tubercula; seu habeat avis certis temporibus carunculas laterales, quæ per ipsas alarum pennas interdum protrudantur; an denique ipsa MERIAN, ut physicorum ingenium exerceret, avemque formosiores redderet, a veritate semel sciens volensque deflexerit; hæc omnia futuris indagatoribus relinquamus necesse est. Certum interim est hodiernis physicis plane ignotam esse hanc avem, illamque ex antiquioribus neminem aut descripsisse aut depinxisse. Magnitudine Anatis communis seu Boschadis a MERIANA depingitur.





THE
MERIAN DUCK.

GENERIC CHARACTER.

Bill broad and flattened ; the edges marked with sharp lamellæ.

Tongue broad and ciliated at the edges.

SPECIFIC CHARACTER.

DUCK varied with copper-ferruginous, deep blue, and green : white beneath ; with the head, back of neck, and tips of secondary wing-feathers carunculated.

The very extraordinary and beautiful bird here figured is accurately copied from a most elegant drawing by the celebrated Madam MERIAN, and is one of the birds of Surinam which occur in the representations by that lady now preserved in the British Museum.

This bird has uniformly puzzled every ornithologist who has viewed it, to determine its real species. It is evident at first sight that it bears a strong affinity to the *Anas moschata* of LINNÆUS, which is commonly called the Moscovy Duck ; but is much more tuberculated about the head, and even a very considerable distance down the back of the neck ; and what is to the last degree singular, the same sort of tubercles appear

pear in full luxuriance at the tips of the secondary remiges or wing feathers, forming a double carunculated band across the middle of the wing. This is a circumstance so extremely peculiar, that it has given rise to strong suspicions of the fidelity of the drawing ; there being no other instance of a similar appearance in the birds of this genus, or indeed, in so striking a degree, in any other.

It is true that in the bird called the Ampelis Garrulus, or Bohemian Chatterer, the tips of the secondary wing-feathers are terminated by flat callous or horny appendages of a bright red color ; and an appearance in some degree analogous to this takes place also in the tips of the neck-feathers of the common cock in a state of Nature. Whether therefore in this species of duck the tips of the secondaries be really furnished with tuberculated appendages ; or whether the bird, at particular seasons may not be furnished with lateral caruncles, which may occasionally protrude between the feathers of the wings as represented by Madam MERIAN ; or lastly, whether that ingenious lady may not in this instance have departed a little from her general accuracy, and have given what she might have considered as an additional ornament, must be left to future enquiries to determine : certain it is that the bird is unknown to modern ornithologists, and is neither figured or described by any other natural historian. The size of Madam MERIAN's figure is nearly that of a common duck.

HEDYSARUM GYRANS.



CHARACTER GENERICUS.

Corollæ carina transverse obtusa.

Legumen articulis monospermis.

Lin. Syst. Nat. p. 493.

Diadelph : *Decandr* :

CHARACTER SPECIFICUS.

HEDYSARUM foliis ternatis.

Lin. Suppl. Plantar. 1781. p. 332.

Cum paucis abhinc annis ab interiori Bengala ad nos pervenerit hæc planta, perculit omnino Europæos physicos mira illius atque antehac incognita qualitas ; motus nempe perpetuus et spontaneus, causis externis nec impeditus nec acceleratus, Mimosæ aliarumque nonnullarum more negans irritari. Efficitur hic motus alternatim convenientibus et recedentibus duobus parvulis foliis utrinque ad pediculos fitis, quæ per totum fere diem leni hoc exercitio agitantur.

Apud nos tamen non semper expectationi respondet Hedyfarum Gyran, frigus sentiens torpidum, aeremque pigrum et a nativo longe diversum, manensque meridie, languido et imbecillo conatu vim insitam ægre evocat : clarissimum argumentum mitiores zephyrorum auras, mollemque cœli Indici temperiem hypocaustorum vaporibus male permutari. In Gangetica terra
facili-

facillimus et liberrimus est hujus plantæ motus, quam
sacram habent incolæ, cæterisque longe digniorem.

Spontaneo huic motui nihil adhuc in vegetabilibus
simile repertum est: inter plurima est quæ oculis, non
intellectu cernuntur, quæque non possumus non admi-
rari, ignorantiam fatentes.

In Europa ad altitudinem duorum vel trium pedum
plerumque crescit, foliaque gerit læte viridia, quorum
media pars magis est glauca; floresque rubentes sub-
cæruleo tinctos, et interdum flavescentes.





ANIMATED HEDYSARUM, OR THE MOVING PLANT.

GENERIC CHARACTER.

Keel of the *Corolla* transversely obtuse.

Legume with single-seeded joints.

SPECIFIC CHARACTER.

HEDYSARUM with ternate leaves.

The plant of which a figure is here given was some years backwards transmitted to us from the interior parts of Bengal, and struck the European Naturalists with astonishment at a phænomenon till then unknown amongst vegetables ; viz. a constant and voluntary motion ; unconnected with any peculiar irritability, as in the sensitive plants and some others, and neither accelerated or retarded by external causes. The motion consists in the alternate meeting and receding of the two small appendages or leaflets situated on each side the footstalks, and which are engaged in this gentle exercise during the greatest part of the day.

In our own country, however, it is not always that the specimens of this curious plant, in an air so different from that of their native regions, exhibit themselves to advantage : they frequently feel the benumbing effects

fects of an unfavorable climate, and only make a faint and feeble attempt towards the middle of the day, at exerting their extraordinary faculty ; a convincing proof how much the artificial heat of a northern stove is inferior to the genial warmth and balmy softness of its native Indian atmosphere ! It is there that it exerts its wonderful motions with unrestrained freedom, and is regarded as a sacred plant, possessed of powers superior to the common race of vegetables.

This voluntary motion is not analogous to any other yet observed in plants : it is one of those numerous phenomena which we are obliged to view without understanding, and to admire without being able to explain.

The specimens raised in Europe generally rise to about the height of two or three feet : the leaves are of a bright green with the middle part of a more glaucous appearance than the rest : the flowers are of a pale red, slightly tinged with blueish, and sometimes yellowish.

SERTULARIA SETACEA.

CHARACTER GENERICUS.

Flores Hydræ.

Stirps radicata, fibrosa, nuda, articulata : articulis unifloris.

Lin. Syst. Nat. p. 1306.

CHARACTER SPECIFICUS, &c.

SERTULARIA simplex pinnata, pinnis alternis subincurvatis, denticulis obsoletis remotissimis secundis, ovariis oblongo-tubulatis axillaribus.

Ellis. Zooph. p. 47.

SERTULARIA PINNATA. *g.*

Lin. Syst. Nat. p. 1312.

Genus Sertulariæ, exemplum admirabile exstat animalis sub specie vegetabilis. Tam apprime enim plantas repræsentant pleræque Sertulariæ species, ut pene ab omnibus pro muscis marinis habitæ, itaque ab historiæ naturalis studiosis descriptæ sint. Solertissimus autem nuper defunctus ELLISIUS plane probavit hæc simulata vegetabilia veras esse hydras, seu polypos marinos ; ab hydris aquarum dulcium in hoc differentes, quod habeant corneam velut thecam corporum ramulos

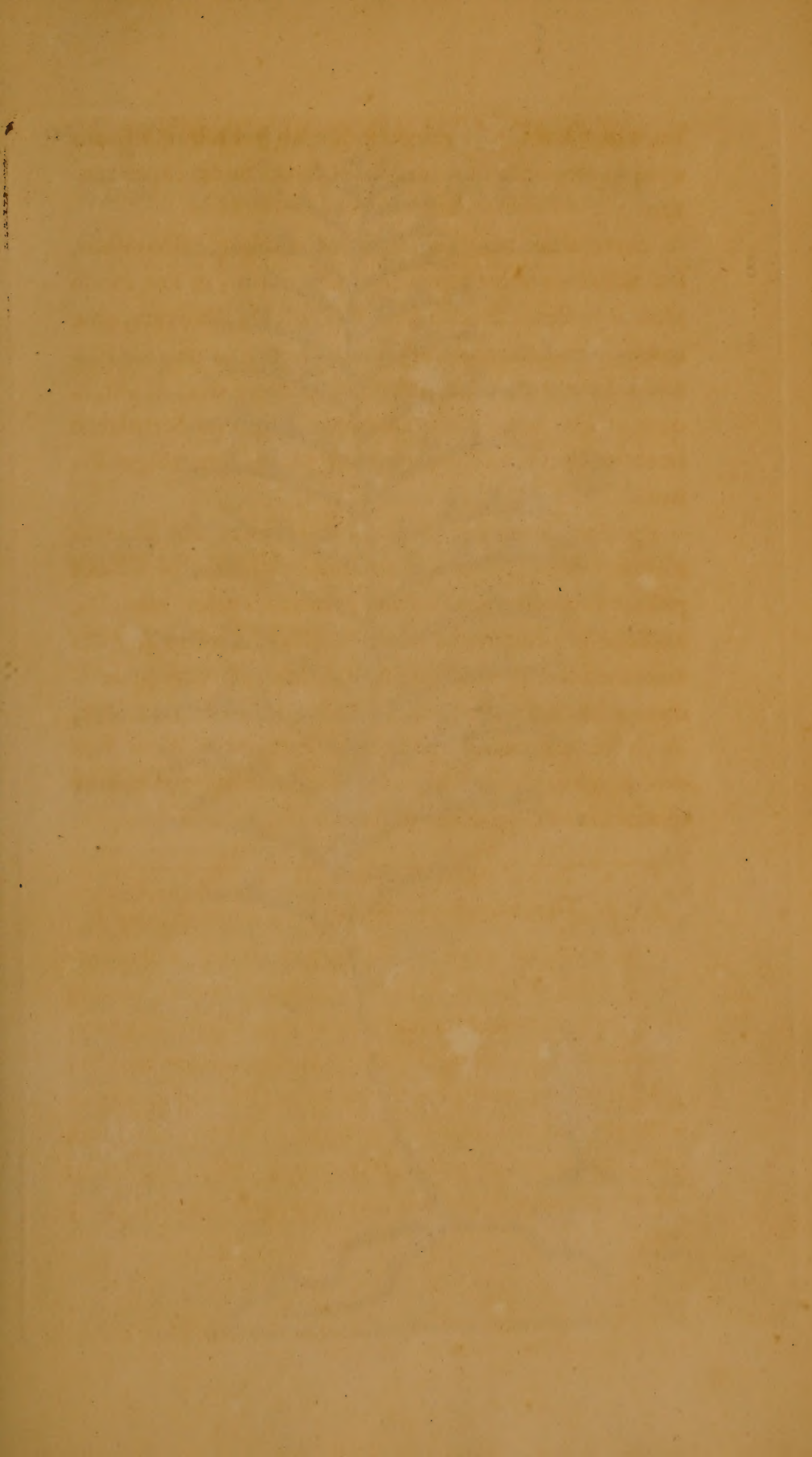
los cingentem, defendentemque ab omnibus injuriis quas in elemento tam turbido et feroci nudæ experientur.

Sertulariæ rupibus, conchis aliisque, stolonibus, seu radicibus velut repentibus affiguntur; et hoc modo plantis videntur simillimæ. Corpuscula illa ovata, quæ in axillis ramulorum conspiciuntur, pro ovariis ab ELLISIO habentur, credunturque continere ova, et interdum etiam foetus plane formatos. Species Sertulariæ numerosissimæ exstant, quarum plures sunt vulgatissimæ.

Species quam hic depingi curavimus ab ELLISIO mutuati sumus, utpote structuræ qualitates peculiare probe exprimentem. Pars animalis, velut medulla, undique per corneam thecam diffusa est; et ex singulo ramulorum denticulo sub forma capitis hydræ protruditur cum suis tentaculis. Ovaria, ut vocat ELLISIUS, in axillis ramorum sita sunt. Sertulariæ, sicut hydræ aquarum dulcium, omnia animalcula prædantur quæ tentaculis suis fors obtulerit.

Fig. 1. Animal magnitudine naturali.

Fig. 2. Idem microscopio auctum.





London Published June 1779 by F. & R. Widdowes at N. B. Brown's Street.

THE SMALL SEA-BRISTLE CORALLINE.



GENERIC CHARACTER.

A compound Hydra or Polype ramified in the manner of a plant, included in a horny case, and affixed by its base.

SPECIFIC CHARACTER, &c.

SIMPLY PINNATED SERTULARIA, with bent alternate pinnæ furnished with very remote processes growing on one side only, and oblong axillary ovaries.

LITTLE SEA-BRISTLE CORALLINE.

Ellis Zooph. p. 47.

Ellis's Corallines, pl. 38. fig. 4.

The genus *Sertularia* affords a most curious proof of an animal body under the appearance of a vegetable. So very great is the similitude which most of the species bear to plants, that they have almost universally been regarded as a sort of sea-mosses, and as such have been described by most naturalists; but the late ingenious Mr. ELLIS seems to have clearly proved that these apparent vegetables are no other than real marine polypes or hydras; which differ from the fresh-water polypes in being provided by Nature with a horny case

case or tube, accompanying the ramifications of their bodies, and serving to defend them from the numerous disasters to which they would otherwise be liable, if left naked in the tumultuous element in which they are destined to reside.

They adhere to rocks, shells, &c. by creeping processes, which bear the appearance of spreading roots, and thus contribute still farther to their plant-like aspect. The oval bodies which are so frequently seen seated at the bases of the lateral branches, are supposed by Mr. Ellis to be the ovaries of the animal, containing the eggs, and sometimes the completely-formed young. The species of *Sertularia* are extremely numerous, and are very common.

The species here figured we have copied from the works of Mr. ELLIS, as it serves to shew in the clearest and most distinct manner possible, the several particulars of the supposed structure. The animal part like a medulla or pith, is every where seen through the transparent horny coat ; and at every denticulation of the branches it is protruded in the form of a polype-head with its tentacula. The supposed ovaries are situated in the axillæ of the branches. The *Sertulariæ*, like the fresh-water polypes, prey on such small animalcules as happen to fall in the way of their tentacula.

Fig. 1. represents the animal in its natural size.

Fig. 2. shews it magnified by a microscope.

STRUTHIO RHEA.



CHARACTER GENERICUS.

Rostrum subconicum, depressum.

Nares ovatæ.

Alæ ad volandum ineptæ.

Pedes cursorii.

CHARACTER SPECIFICUS.

STRUTHIO pedibus tridactylis.

Ab exemplari pulcherrimo Americano, in Museum Leverianum nuperrime illato nunc primum depingitur avis exoticarum fere omnium rarissima, quamque probabile est non modo non vidisse Europæos physicos, sed pene ignorasse. Struthioni licet communi seu Africano primo intuitu simillima sit Rhea, alarum tamen pennæ, utcunque ad volandum inutiles, non modo longe majores sunt, sed et laxæ et quasi divaricatæ; et utrinque super axillas exstat fasciculus plumosus elongatus, torquem efficiens, quali propemodum distinguitur cervix Tetraonis Umbelli. Facillime vero speciem denotat, Linnæoque pro charactere specifico inserviit pedum forma, qui tridactyli sunt, digitis

omnibus antrorsum spectantibus, ungulatis, et æquali fere magnitudine; cum habeat pes Struthionis communis duos digitos, quorum major tantum unguibus instruitur. Color Rheæ, in hoc saltem specimine, est terreo-fuscus, subtus pallidior, pennis alarum intermediis seu interioribus albis. Cauda vix discerni potest; in uropigio tamen paulo productiores sunt pennæ quam in reliquo corpore. Crura pedesque nigricant.

Notandum est in America tantum Australi reperiri hanc speciem, et pullum forsitan fuisse avem quæ in Museo Leveriano asservatur; est enim Struthione Africano dimidio minor.



London. Published July 1791 by F. & J. Wadley at N. 15. Broad Street.

THE
AMERICAN OSTRICH.



GENERIC CHARACTER.

Bill depressed, rounded at the end.

Wings useless for flight.

Legs naked above the knee.

SPECIFIC CHARACTER.

OSTRICH with three-toed feet.

The *Struthio Rhea*, or American Ostrich, one of the rarest of exotic birds, and which appears to have been hitherto almost unknown in Europe, and scarce ever seen by any European naturalist, and which most certainly has never before been figured, is here faithfully represented from a very fine specimen lately sent from America to the Leverian Museum. In its habit, or general appearance, this bird at first sight bears a near resemblance to the common or African Ostrich; but the wings, though useless for flight, are composed of feathers which greatly exceed those of the common ostrich: they are also looser, and more divaricated or

spread than in that species; and on each side the neck, just above the axillæ, is a fasciculus of long feathers, forming a sort of ruff, almost in the same manner as in the Tetrao Umbellus, or ruffed heathcock; but what easily distinguishes this species, and which LINNÆUS has made use of for his specific character of the bird, is, that the feet are not didactylous, or composed of two toes, as in the common or African species, but are tridactylous, or composed of three distinct toes; all which point forwards, and are nearly alike as to proportion: they are likewise all three furnished with claws; whereas in the common ostrich there are only two toes, of which the primary or large one alone is clawed. The colour of this bird (at least in the present specimen) is earthy-brown, paler beneath, and the intermediate or interior wing-feathers are white. There is scarce any appearance of a tail, but the feathers on the rump are a very little longer than in other parts. The legs and feet are blackish. I should observe, that this specimen is probably not a full-grown one, and is scarcely half the size of the common or African ostrich.

MUS STRIATUS.



CHARACTER GENERICUS.

Dentes Primores inferiores subulati.

Lin. Syst. Nat. p. 79.

CHARACTER SPECIFICUS, &c.

MUS rufus, corporis striis pluribus albo-guttatis.

MUS Orientalis.

Seba. 2. t. 21. f. 2.

Pall. Glir. p. 90. No. 97.

In calidioribus ut plurimum mundi partibus, in India præcipue Orientali reperitur mus hicce parvulus et pulcherrimus. Color est rufus seu ferrugineofuscus, subtus pallidior magisque albicans. Ornantur dorsum et latera crebris ordinibus punctorum alborum quæ formam ovatam obtinent. Crura quoque et cauda subalbida sunt. Cum ingenio fit Mus striatus miti admodum et innocuo facillime mansuescit. Magnitudine muri vulgari paululum cedit.

THE
STRIPED MOUSE.



GENERIC CHARACTER.

Two cutting teeth in each jaw.
Four toes before; five behind.
Slender taper tail.

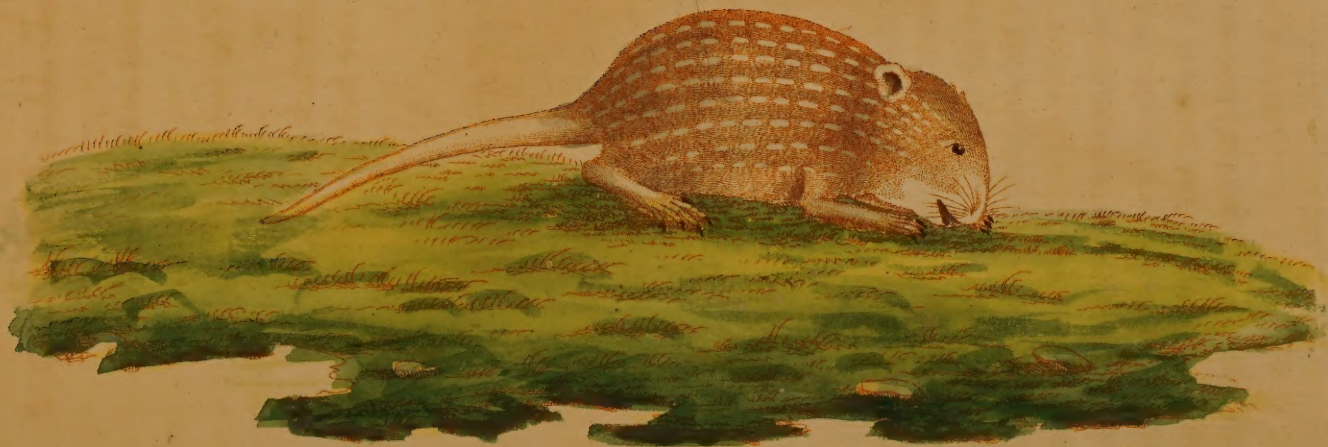
SPECIFIC CHARACTER, &c.

RUFOUS MOUSE, with the body marked by
several rows of oval white spots.

ORIENTAL RAT.

Penn. Quadr. p. 445.

This little animal, so eminently distinguished by the beauty of its appearance, is chiefly found in the warmer regions of the globe, and particularly in the East-Indies. Its colour is a ferruginous or reddish brown, paler, or more inclining to white beneath, and decorated on the back and sides by several rows of small oval spots of white. The tail and legs also incline to whitish. It is easily tamed, and its disposition is perfectly mild and gentle. It is somewhat less than the common mouse.



COLUBER NAJA.



CHARACTER GENERICUS.

Scuta abdominalia.

Squamæ subcaudales.

Lin. Syst. Nat. p. 275.

CHARACTER SPECIFICUS.

COLUBER FERRUGINEO-FLAVESCENS,
collo (plerumque) multum dilatato macula-
que supra conspicillata albo nigroque varia
notato.

Scuta abdominalia circiter 193.

Squamæ subcaudales 60.

Inter Europæorum commoda jure potest reputari
serpentum venenosorum paucitas, qui in Indiæ et
Africæ vastis regionibus, nec non in Americæ late
patentibus desertis, denso et horrendo dominantur ag-
mine; nonnulli in exitium humani generis nimis, heu!
lethaliter armati.

Omnes virulenti serpentes dentibus tubulatis ve-
nenum per foramen e sacculo maxillari in vulnus in-
flantibus, instructi sunt. Sunt tamen alii illis charac-
teres quibus aliquatenus ab innoxiiis serpentibus dis-
tingui

tingui possunt. Notavit Dominus GRAY, in Aëtis Anglicis plerosque venenosos serpentes caput latum, depresso, squamis minutis tectum habere; corporaque squamis carinatis, seu linea elevata notatis obducta: at e contrario, innoxiiis serpentibus, qui morfu tantum simplici lædunt, caput plerumque esse parvum, squamis magnis et latis adopertum, corpusque squamis lævibus, seu non carinatis. Hi autem characteres generales habendi sunt, nec sunt improvide et indubitanter recipiendi. Ita se rem habere species depicta exemplum est clarissimum. Est enim hic serpens inter pestiferos fere dirissimus; et tamen externis illis specierum perniciosarum characteribus non distinguitur; sed ut innocuo serpenti caput est illi plerumque parvum, squamis magnis tectum; corpusque squamis lævibus, seu non carinatis.

Tremendum hocce animal in India Orientali invenitur. Morsus ejus non minus quam Crotali funestus est. Ab Indiæ tamen incolis interdum capitur, et telis, seu dentibus tubulatis extractis (mirum dictu!) mansuescit, et in varios modos, ad domini nutum, velut saltans, se contorquet; et sæpe pro spectaculo exhibetur. Nota, quam in collo habet singularem, diversis speciminibus plus minus vivida est. Color etiam totius corporis in diversis aliquatenus differt. In longitudinem aliquot pedum interdum crescit hic serpens.

Cum monstra hæc, regiones calidiores orbis incolentia, animo occurrunt, gratulari nobismetipsis merito possumus de nostra securitate; et lubentissime anteponamus hyemis septentrionalis incommoda, pigrosque campos

campos et diu infructuosos, perenni climatis æstati,
et floribus perpetuo ridentibus, quibus India utraque
superbit : at ubi, proh dolor ! viator incautus, media
inter gaudia, fato subitaneo corripitur.

THE
SPECTACLE SNAKE,
O R
COBRA DE CAPELLO.



GENERIC CHARACTER.

Transverse *Lamellæ* under the abdomen.
Broad alternate *Scales* under the tail.

SPECIFIC CHARACTER.

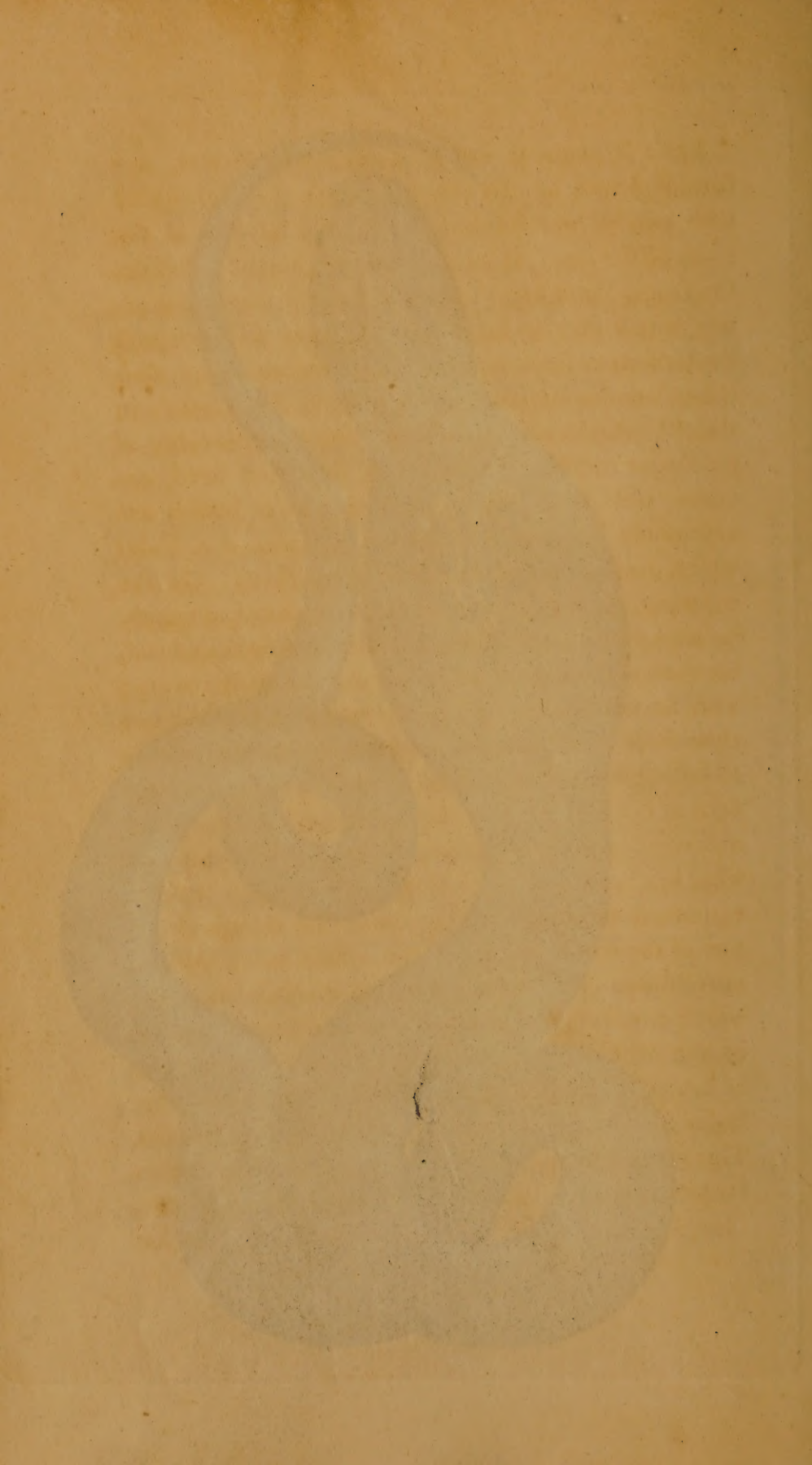
FERRUGINOUS-YELLOW SNAKE, with
the neck (generally) much dilated, and
marked above by a spectacle-shaped spot of
black and white.

The abdominal plates are about 193.
The subcaudal scales 60.

In Europe the noxious part of the serpent tribe is happily confined to a very few poisonous species; but the vast regions of India and Africa, and the extensive wilds of America, are infested by a variety of these dreadful reptiles; some of which are but too well provided with the fatal power of destroying mankind by their bite.

Such





Such serpents as are of a venomous nature, are furnished with tubular fangs, or teeth, through which their poison, which is contained in reservoirs at the roots of the fangs, is injected into the wound. Besides the fangs, there are in general some external characters which may in some measure serve to distinguish the poisonous serpents from the innoxious ones: thus it has been observed by the ingenious Dr. GRAY, in the Philosophical Transactions, that the generality of poisonous serpents have a broad, depressed head, covered with small scales; and that their bodies are commonly covered with carinated scales, *i. e.* scales which have a prominent line upon them. On the contrary, the innoxious serpents, or such as can merely inflict a simple wound, have generally a smallish head, covered with large broad scales, and the body covered with smooth scales, or not carinated: but these are characters which admit of exceptions, and are merely to be regarded in a general view. The species here figured is a striking instance of this, and (as Dr. GRAY observes) is in every respect a complete exception to what has been said respecting the distinction between venomous and innoxious serpents; for though this is one of the most terrible of the whole tribe, yet it is not distinguished by those external marks of malignity which commonly characterize the poisonous species: on the contrary, it agrees with the innoxious serpents in having a smallish head, covered with very large scales; while the body is covered with smooth scales. This formidable animal is a native of the East-Indies. Its bite is not less destructive than that of the Rattle-Snake.

Snake. It is said however to be sometimes caught by the Indians, and after having its fangs drawn, to be in some degree tamed, so as to be taught to throw itself into various fantastic attitudes, as if dancing; and in this condition is often exhibited in India as a shew. The very singular mark on the neck is much more apparent in some specimens than in others. The colour also of the whole body is deeper or lighter in different specimens. It grows to the length of some feet.

Reflecting on these horrid natives of the hotter regions of the globe, we may congratulate ourselves on our own happy state of security, and may well be willing to prefer the rigours of a northern winter, with a temporary loss of vegetation, to the continued warmth of climate, and ever-blooming verdure, which distinguish the beautiful regions of both the Indies; where alas! the incautious traveller may meet with sudden fate in the midst of the most enchanting scenes which nature can display.

INDEX.

- PL. **A**CARUS autumnalis.
 42. Acarus vegetans.
 64. Anas Merianæ.
 69. Boa Constrictor.
 51. Bradypus urinus.
 58. Buceros Rhinoceros.
 41. Chætodon armatus.
 57. Chætodon Enceladus.
 67. Coluber Naja.
 74. Dionæa Muscipula.
 40. Gryllus migratorius.
 62. Hedyfarum gyrans.
 70. Julius maximus.
 46. Lacerta Salamandra.
 45. Lacerta platyura.
 65. Loxia jugularis.
 43. Mantis Gigas.
 38. Mus faliens.
 73. Mus striatus.
 63. Muscicapa porphyrobroncha
 49. Papilio Menelaus.
 68. Papilio Achilles.
 39. Pennatula phosphorea.
 60. Petaurus australis.
 44. Picus minimus.
 53. Psittacus gloriosus.
 50. Psittacus magnificus.
 48. Simia Sphinx?
 71. Sertularia setacea.
 61. Siren lacertina.
 54. Stapelia hirsuta.
 47. Strix Nyctea, var.
 72. Struthio Rhea.
 55. Sorex bicolor.
 66. Trochilus Colubris.
 52. Voluta arauziaca.

INDEX.

- PL. **A**CARUS autumnal.
 42. Baboon variegated.
 48. Boa great.
 51. Butterfly silver-blue.
 49. Butterfly great blue-banded.
 68. Chætodon long-spined.
 57. Cockatoo magnificent.
 50. Coralline sea-bristle.
 71. Duck Merian.
 69. Fly-trap Venus's.
 40. Fly-catcher purple-throated
 63. Grosbeak red-throated.
 56. Horn-bill great.
 41. Humming-bird red-throated
 66. Hedyfarum animated.
 70. Jaculator.
 67. Julius great.
 46. Jerboa Siberian.
 38. Lizard broad-tailed.
 65. Locust wandering.
 62. Mantis giant.
 43. Mite vegetating.
 64. Mouse striped.
 73. Owl snowy, var.
 47. Ostrich American.
 72. Pennatula phosphoric.
 39. Parrot Pennantian.
 53. Petaurus southern.
 60. Siren.
 61. Snake spectacle.
 74. Stapelia fetid.
 54. Sloth ursine.
 58. Shrew water.
 55. Salamander.
 45. Volute orange-striped.
 52. Woodpecker minute.

